How am I creating a pedagogy of the unique through a web of betweenness?

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HOW AM I CREATING A PEDAGOGY OF THE UNIQUE THROUGH A WEB OF BETWEENNESS?

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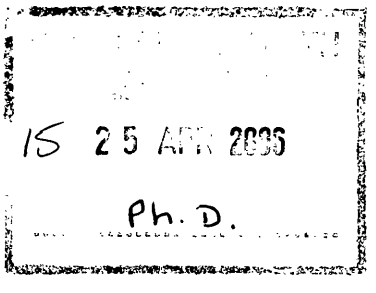
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Abstract

Creating a Pedagogy of the unique through a Web of Betweenness

This thesis examines the growth of my educational knowledge and development of my practice, as higher education educator, over six years of self-study. The thesis sets out to report on this research and to explain the evolution of my educational influence in my own learning, the learning of others and in the education of social formations. By education of social formations I refer to Whitehead's (2005a) meaning of living values that carry hope for the future of humanity more fully in the rules and processes that govern its social organization.

The context of my research was the collaborative process that developed between myself and participants on the M.Sc. in Computer Applications for Education and the M.Sc. Education and Training Management (ICT) at Dublin City University. Within that context, I worked with a sense of research-based professionalism, seeking to improve my practice through using a 'living educational theory' approach that has sustained me in asking, researching and answering the question; 'How do I improve my practice?' This has enabled me to critically examine my own assumptions and values.

I clarify the meaning of my embodied values in the course of their emergence in my practice-based research. My values have been transformed into living standards of

judgement that include a 'web of betweenness' and a 'pedagogy of the unique'. The 'web of betweenness' refers to how we learn in relation to one another and also how ICT can enable us to get closer to communicating the meanings of our embodied values. I see it as a way of expressing my understanding of education as 'power with', rather than 'power over', others. It is this *'power with'* that I have tried to embrace as I attempt to create a learning environment in which I, and practitioner researchers, can grow personally and professionally. A 'pedagogy of the unique' respects the unique constellation of values and standards of judgement that each practitioner-researcher contributes to a knowledge base of practice.

As a researcher, I have supported practitioners in bringing their embodied knowledge and values into the public domain as they design, develop and evaluate multimedia and web based artefacts for use in their own practice contexts. This has involved the supervision of Master degree 'living educational theory' enquiries. My PhD enquiry has been a professional journey that has involved risks, courage and challenges, but I have learned that in creating my 'pedagogy of the unique', I learn and grow, recognising the contribution I myself make as an individual, and also recognising the contribution dialogue, participation and collaboration with others achieves.

Chapter One

Prologue

> *"To transform the world, we must begin with ourselves; and what is important in beginning with ourselves is the intention. The intention must be to understand ourselves and not to leave it to others to transform themselves or to bring about a modified change through revolution, either of the left or of the right. It is important to understand that this is our responsibility, yours and mine; because, however small may be the world we live in, if we transform ourselves, bring about a radically different point of view in our daily existence, then perhaps, we shall affect the world at large, the extended relationship with others".*
>
> (Krishnamurti, 1954, p. 42)

As I sit at my office desk in the university's Education department preparing for my next lecture, sounds of laughter come from the playground of a nearby primary school. On opening my office window, the excited sound of children at play floods the room. Thankful for the break, I watch their interaction: one child passes the ball to another who takes the ball, and balancing it on his left foot for a few seconds, an act that takes his school mates by surprise, he skilfully slides it under his left foot to another child. She continues the ball play.

I wonder what it is about ball play that can hold our attention and interest? Is it the possibilities that a game opens up? Is it the sense of excitement, of uncertainty, of not knowing how it will all end? Is it that each person is called on to actively participate? Is it that, once play starts, each person is dependent on the other and yet needs to act independently as well, when she runs with the ball? Is it that even when you're not playing the ball you have to continue to actively read the game?

As I watch, the children are totally engaged in the game: each child with his/her part to play, as they pass the ball from one to the other. I reflect that I, as an adult, can in a curious and imaginative way, enter the world of the children, feeling that I am an active participant, promoting in my thoughts and occasionally by word and gesture the flow of the game with them.

I reflect that life, like the game, can be full of uncertainties. Each of us can be a learner who strives to develop his/her knowledge and skills to make sense of the world around us. Our values of caring and sharing need to be developed if we are to construct the world in a positive way. Who knows what will come from these small beginnings? How can I develop social formations that can lead to active, enquiring and creative learning in a variety of contexts?

Tolstoy (1862-1967) viewed ambiguity and uncertainty not as something to remedy but as the soil for deep learning (p. 287). How can we help develop a love of learning from an early age? In our current education system, are we offering a curriculum appropriate to the needs of the learner? In higher education where talk is of knowledge transfer rather than pedagogy, are the learner's needs being overlooked? How can I, as a higher education educator initiate and help to co-create a curriculum with my learners? What if we did something different? Wouldn't it be interesting to step into the shoes of the learner at the other end of our classroom and experience what it is like to be looking in from the other side?

Were we to mentally and habitually exchange places with our pupils or students, we, as teachers, would have to rely more on our imagination. We would have to deal with uncertainty and ambiguity and treat them as part of the learning process. We would not be able to plan everything in advance but would probably allow knowledge to emerge and grow in and through the practice. We would listen to our learners more carefully, indeed we would have their voices in our heads, and respond to their individual needs.

Perhaps we need to learn from musicians, artists, designers, children who play games, even those who hold the ball in both hands and run! As Schön points out:

> *"It is rare that the designer has the design all in her head in advance, and then merely translates it. Most of the time, she is in a kind of progressive relationship: As she goes along, she is making judgements. Sometimes, the designer's judgements have the intimacy of a conversational relationship. Where she is getting some response back from the medium, she is seeing what is happening – what it is that she has created – and she is making judgements about it at that level".*
>
> (Schön, cited in Winograd, 1996, p. 176)

In my own learning and educational development, I am cautious of preconceptions but rely on my previous knowledge, experience, attitudes and skills, and of course the greatest faculty of all, the imagination as I live and learn in relation to others.

Learning is essentially a human, creative and dynamic exploration. Is it not important for me as a higher education educator to strive to articulate and live my educational values and to give form and shape to them in my practice?

Is it not important that in professional development programmes, we, as co-practitioners should become actively engaged in learning to share our understandings, articulate our values, design and construct artefacts that reflect them and learn from one another? With such a stance, would we not, as 'professional learners' learn to be take ownership and responsibility for our own learning, as we go on our educational journey?

For today's teachers, new technologies allow for new ways of doing things. ICT holds out much promise in this area. With developments in bandwidth, learners can communicate different forms of representation, in the form of multimedia. There is also the opportunity to move beyond the walls of the classroom and opportunities for collaboration with others. ICT is constantly shifting and developing and we can feel we are moving and exploring unknown terrains. Early computers laboured over tasks that are now done in nanoseconds. Speed makes the computer a friend that can whisk us along rather than leaving us in frustration. But we need to be attentive to the journey rather than become too fascinated by the technology. In the learning game, each of us has to use his/ her gifts to create opportunities, open a path that can lead to new understandings, new and wonderful sights, sounds and opportunities!

Introduction

On entering the doctoral research field, I reflected on my personal teaching practice, I realised that cooperative work had been key to my involving my student/learners in developing their own knowledge.

I recall how in my early days at Dublin City University (DCU), I became involved in collaborative project work with other universities and schools, as well as in developing my own ICT skills. These experiences led me toward an approach to Doctoral research that could involve study of the teaching and learning process, and where better to begin than with my own practice as a higher education educator. In the self-study that is a central feature of this research enquiry, my educational values emerge as guiding principles in my practice. Through this reflection, I intend also to clarify the sources of my own characteristic approach to these concerns of teaching and learning, as well as the methodologies I have developed for dealing with them.

Masters degree in Educational Technology (University of Bath, 1990)

I began carrying out a self-study of my own educational development in 1990 during my Masters Degree research at the University of Bath, United Kingdom (UK). I was inspired to do so by Dr. Jack Whitehead, lecturer at Bath University who set out his 'living educational theory' approach to research during the opening session of the Masters degree in Educational Technology programme in 1990. The notion of an action research 'living educational theory' approach that involved practitioners in systematically reflecting on their practice to bring about improvement, and creating their own theory from the ground of their educational practice was very different to the theories of teaching and learning that I had encountered previously when I studied for my Teaching Certificate. I used a 'living educational theory' approach in my Masters degree dissertation. I did so because it allowed me to ask, research and answer the important question, 'how can I improve my own teaching practice?'

Through addressing this question, I saw the opportunity to explore in a more theoretical way, an issue that I would have approached in a more pragmatic manner in relation to the teaching of computing. In the late 1980's I was teaching in various contexts: Further Education, Sixth Form Centre and Adult Education. A lot of software packages were targeted toward learners working in isolation with the computer. I was interested in designing and developing my own teaching and learning programs.

In an IT assignment for the Masters degree, I used HyperCard (Apple Corporation) to develop a multimedia program. Although I had experience of programming, the advantage of Hypercard was that it allowed one to create multimedia products without having programming skills.

My interest in using this type of program related to my own educational values which included being creative and developing my own software for use in class. This experience of designing and developing my own learning activities using authoring software gave me an insight into how I could take more ownership of my practice and not rely on ready-made software.

During the Educational Technology module I had the opportunity to explore the use of different media in teaching and learning. The unique educational features of interactive video appealed to me and I decided to explore the use of an interactive video programme for my Masters dissertation. I explored the role that I played as

facilitator, in co-operative group use of Interactive video with pupils in a post-primary school in Bath, UK. I chose a program called 'North Polar Expedition,' which is a multi-role educational adventure program. The program involved five people working together as a team in trying to reach the North Pole. During my research, I videotaped the group as they worked through the Interactive Video program. I was impressed by the potential of the video to record real life situations, i.e. the group's interactions and discussions, my role as facilitator and how I was influencing the learning process. This study was later published in the British Journal of Educational Technology (Cloke, Farren and Barrington, 1996). The idea of knowledge as a process was certainly one that I valued and wanted to promote in my own teaching and learning.

My supervisor, Jack Whitehead, had asked me why I was so committed to the idea of group-work and group discussion. I recall saying that in my own experience as a learner, I had found an excessive emphasis on teacher-centered approaches that discouraged students from exploring their own learning. I believed that learners needed to become more involved in shaping their own learning patterns. In my Masters degree enquiry, 'My Facilitation of Co-operative Group-work with Interactive Video as a Catalyst'.

Islington Sixth Form College, North London

While teaching in a Sixth Form college in London, in the late 1980's, I made extensive use of co-operative group-work and group discussion and found it to be an effective way of teaching and learning. Staff were fully supported in the use of team teaching approaches to the study of IT.

IT workshops were organized that provided opportunities for teachers to explore and learn about software tools appropriate to their classroom needs. Much of the research into the use of computers at the time tended to focus on the ability of learners to work on their own in front of a computer and engage in individual self-instruction. There was a relative dearth of packages that focused on cooperative learning. The developers of educational packages seemed to have lost sight of the desire that arises among most learners in computing classrooms to share their learning experiences with others. At least, this feature of actual computing learning activity found no echoes in the learning materials I engaged with.

British School of Brussels

Having completed the Masters degree, I taught in the British School in Brussels. I taught Computer Studies and ICT to GCSE (General Certificate in Secondary Education) level (Year 10 and 11), Computer Studies to A (Advanced) level (Year 12 and 13), Communications and Marketing on BTEC (British Technical Education Council) courses. The A Level Computer course involved programming, systems analysis, and technical operations of the computer. The GCSE Computer Studies course was also geared towards programming and the internal operations of a computer. In 1994, the GCSE Computer Studies syllabus was replaced with a new GCSE Information Technology syllabus. The school decided to follow the University of London GCSE syllabus in Information Technology. The educational context of the changeover from Computer Studies to Information Technology was the establishment of a National Curriculum in the UK. Key Stage 4 of National Curriculum represented GCSE (Year 10 and 11), which catered for students between 14 and 16 years.

I believe that the principal strength of the new syllabus in Information Technology was its open-ended nature. In other words, it wasn't prescriptive. The syllabus valued the process of enquiry as well as the product. It provided learners with the opportunity to explore and experiment with ICT and to carry out project work in areas of interest and relevance to them. It provided me with some scope for applying my interactive approach to IT teaching in the classroom.

Centre for Teaching Computing, DCU

The next stage of my teaching and learning journey took me to Dublin. In 1997, I was appointed Research Officer at the Centre for Teaching Computing, in the School of Computer Applications at Dublin City University (DCU). The Centre for Teaching Computing provided me with the opportunity to continue my interest in ICT in teaching and learning. This appointment brought me to the heart of the problems of teaching and learning of and through IT that had become one of my chief preoccupations. I was privileged to be involved in activities that were central also to the Irish Government's aim to accelerate the teaching of ICT subjects in anticipation of industrial expansion in that area and benefited from Government's willingness to experiment with novel approaches to this endeavour.

Several interesting developments in ICT took place while I was there. Two academics in the Computer Applications department, Michael Ryan and Micheal O' hÉigeartaigh spearheaded a number of initiatives to promote the use of ICT in primary and post-primary schools. They established the Irish Tech. Corp. and the Centre for Teaching Computing.

The Irish Tech. Corp. was an initiative that involved co-operation between industry and the third level education sector to provide schools with technical advice and support and to supply schools in the Greater Dublin area with computer equipment. Ryan and O' hÉigeartaigh established the Centre for Teaching Computing (CTC), in collaboration with the University of Ulster, to support computing academics throughout Ireland, in the shared development, evaluation and dissemination of teaching materials and methodologies. The Centre organised workshops and conferences for higher education staff and organized annual conferences on subjects concerned with ICT in the curriculum. This was the first Center that was established in Ireland to support the use of technology in the context of teaching and learning in higher education. They also set up a Masters degree in Computer Applications for Education in 1996.

In 1998, Michael Ryan and Michael O' hÉigeartaigh, who had been responsible for the latter initiatives, took up positions outside DCU. In 1998, the Centre for Teaching Computing was closed and the work of the Irish Tech. Corps was incorporated into the National Centre for Technology in Education (NCTE) at DCU campus. The latter body was given the task of managing the implementation of Department of Education and Science's Policy on IT dissemination, contained in Schools IT 2000.

While working with the Centre for Teaching Computing in 1998 and 1999, I took part in several online learning professional development courses with Sheffield University, University of Greenwich, UK and Southern Cross University, Australia.

I decided to participate in the online learning courses to explore how an online learning environment could support professional development. Once again, the theme of collaborative learning came into focus. Online education may be defined as an approach to teaching and learning that makes use of Internet technologies to communicate and collaborate in an educational context. Examples of such technologies include systems such as WebCT, Blackboard, LotusNotes and Moodle. I was somewhat taken aback to find that, while there was an extensive literature on student use of the internet, little reference was made to teachers' communicating with each other via the internet and the way collaborative work could lead to improvement of teaching practice. I believed that these should have been areas of research priority. Indeed, the preoccupations of the Centre in which I worked led me to become interested in the shortcomings in the available literature. I became interested in exploring how teachers could use online technologies to develop their practice.

School of Computer Applications, DCU

In February 1999, I joined the lecturing staff in the School of Computer Applications and I began teaching on the M.Sc. in Computer Applications for Education programme. I had had experience of teaching ICT in the UK context and believed that it would be important for me to become more aware of the particularities of working in the Irish context. I invited a practicing teacher in a post-primary school to collaborate with me on one of the programme modules. This led to other collaborative projects between the School of Computer Applications and the post-primary school i.e. the Setanta project [WWW1].

I was able, in my own teaching practice, to begin to fill some of the gaps in the available material on IT teaching methodologies (in particular, collaborative teaching and learning) that I had identified while a research officer. I derived substantial benefit from my shift from a research mode (albeit with a strong emphasis on applications) to teaching, and to appreciate what could be achieved by the pursuit of each endeavour. That my teaching concerned the formation of teachers and, in some cases, the teachers of teachers, gave me the opportunity to observe at first hand, and in a collaborative fashion, the very real problems involved in the teaching and learning process. I taught in the School of Computer Applications from February 1999 to August 2002. On moving into a university context, I was still as eager as before to continue my interest in teaching and learning.

School of Education Studies, DCU

Since September 2002, I have been working in Education Studies at Dublin City University (DCU). I co-ordinate the M.Sc. in Education and Training Management which consists of two streams, Leadership and ICT. I teach on the M.Sc. in Education and Training Management (ICT), which is a two-year part time programme. I teach on the following modules: *Web Based Interactive Design*, *Emerging Pedagogies*, *Educational Multimedia Development* and *Collaborative Online Learning Environments.* Participants on the programmes come from various practice contexts and it is vital that they explore how ICT can be used meaningfully in their unique contexts. The diverse range of participants (present and past) on the programmes provides a rich source of perspectives and I believe that each participant can learn from each other's experiences. I value a collaborative approach.

Rationale of my research enquiry

In my practice-based research, I demonstrate how I am contributing to a knowledge base of practice by creating my 'living educational theory'. This involves me in systematically researching my practice in order to bring about improvement. Whitehead (1989, 2003) claims that values are embodied in our educational practice and their meanings can be communicated in the course of their emergence in practice. He encourages us to account for our own educational development through the creation of our 'living educational theory' and using our values as living standards of judgement we can judge the validity of our claims to educational knowledge. I intend to analyse my educational influence in terms of the transformation of my embodied knowledge into public knowledge, by showing my educational influence in my own learning, the learning of others and on the education of social formations. This relates to the idea of social formations as defined by Bourdieu (1990) and points to the way people organize their interactions according to a set of regulatory values that can take the form of rules.

Framing my research

My research is timely as there is now a growing interest in applied and practice-based research. In a UK discussion document entitled 'Assessing Quality in Applied and Practice-based Educational Research', Furlong and Oancea distinguish different models of educational research. They claim that action research as a model "*challenges any simplistic distinction between 'pure', 'applied' and 'strategic' research*" (Furlong and Oancea, 2005, p. 8). They suggest that "*action research and reflective practice are models that offer arguments against the idea that applied*

research is only focused on use and that it does not and cannot contribute to more theoretical knowledge production while at the same time achieving changed practice" (*ibid*). The future of educational research in the UK is likely to be guided by the results of the Research Assessment Exercise (RAE) 2008. The UK Governments RAE 2008 states that researchers should be able to submit applied and practice-based research that they consider to have achieved 'due standards of excellence': "*Where researchers in higher education have undertaken applied and practice-based research that they consider to have achieved due standards of excellence, they should be able to submit it to the RAE in the expectation that it will be assessed fairly, against appropriate criteria"* (RAE 2008, par. 47).

Boyer, the past President of the Carnegie Foundation of Teaching and Learning, based at Stanford University, urged academics to move beyond the teaching versus research debate. He identified forms of scholarship that moved beyond the scholarship of discovery (research). These included the scholarship of integration, scholarship of application and scholarship of teaching. Boyer pointed toward a more rounded view of what it means to be a scholar: "*a recognition that knowledge is acquired through research, through synthesis, through practice, and through teaching*" (Boyer, 1990, p. 24). In 1995, Schön pointed out that if teaching is to be seen as a form of scholarship, then the practice of teaching must be seen as giving rise to new forms of knowledge (Schön, 1995, p. 31).

Lee Shulman, current President of the Carnegie Foundation of Teaching points out that the key to improvement in teaching lies in a conception of teaching as a scholarly endeavour. He outlines the following characteristics of a 'scholarship of teaching':

A scholarship of teaching will entail a public account of some or all of the full act of teaching – vision, design, enactment, outcomes, and analysis – in a manner susceptible to critical review by the teacher's professional peers and amenable to productive employment in future work by members of the same community.

(Hutchings & Shulman, 2004, pp. 149-150)

Shulman has been instrumental in creating an advanced study centre called the Carnegie Academy for teachers who engage in the scholarship of teaching in ways that make their work public and available for critical evaluation, in a form that others can use, build upon, and move beyond. This involves university academics engaging in sustained inquiry into their teaching practice and their students' learning. The Carnegie Foundation has created the Knowledge Media Laboratory (KML), a web based resource of teaching and learning artefacts [WWW2]. Shulman points out that if pedagogy is going to be an important part of scholarship there must be evidence of it, "*it must become visible through artefacts that capture its richness and complexity*" (Shulman, 2004, p. 142).

Issues around knowledge and how teachers can contribute to a knowledge base of practice are evident in articles in the journal 'Educational Researcher'. The following excerpts are relevant to this debate.

In 2001, Snow wrote the following in her article, 'Knowing what we know: children, teachers, researchers'.

> *The Knowledge resources of excellent teachers constitute a rich resource, but one that is largely untapped because we have no procedures for systematizing it. Systematization would require procedures for accumulating such knowledge and making it public, for connecting it to bodies of knowledge established through other methods, and for vetting it for correctness and consistency. If we had agreed-upon procedures for transforming knowledge based on personal experiences of practice into public knowledge, analogous to the way a researcher's private knowledge is made public through peer-review and publication, the advantages would be great.*
>
> (Snow, 2001, p. 9).

In June/July (2002) Hiebart *et al.* wrote in their article 'A knowledge base for the teaching profession: what would it look like and how can we get one?'

> *To improve classroom teaching in a steady, lasting way, the teaching profession needs a knowledge base that grows and improves. In spite of the continuing efforts of researchers, archived research knowledge has had little effect on the improvement of practice in the average classroom. We explore the possibility of building a useful knowledge base for teaching by beginning with practitioners' knowledge. We outline the key features of this knowledge and identify the requirements for this knowledge to be transformed into a professional knowledge base for teaching.*
>
> (Hiebart *et al.*, 2002, p 3)

Contribution of Information and Communications Technology (ICT)

It is worthwhile, at this stage, outlining the contribution ICT has made to the development of my educational knowledge, and in particular, my developing new

standards of educational judgement. ICT has been used to complement and support my pedagogy as it unfolds. Some examples in the context of my research include:

- digital video to record teaching and supervision and reveal tensions and living contradictions when values could be lived more fully;
- online learning environments that have sustained ongoing dialogue among practitioner-researchers with evidence of reciprocal educational influences in learning;
- desktop videoconferencing that has opened up the classroom environment and provided opportunities to share our knowledge with others with reciprocal influences in learning;
- multimedia and web-based artefacts with supporting text provide evidence of how practitioners are developing living standards of judgement through asking, researching and answering the question, 'How do I improve my practice'?

This research is publicly available on my website and has been accredited at Masters degree level at Dublin City University [WWW3].

Educational values

I believe that values give form and meaning to our personal and professional lives. An awareness of one's ontological position is a vital step in clarifying the meanings of one's values as they emerge in practice. Smith (2001, p. 271) asks, '*Why should it be important to consider the question of what sustains us*?'

This question suggests that we should reflect on the significance of our values and that in answering the question we would articulate the values that provide meaning to our personal and professional lives. We are never finished products. We are always emergent beings with further potentiality. We are always in process of becoming. My educational values have revealed themselves in the course of my practice. As my pedagogy unfolded, I found myself asking questions and moving towards new possibilities. Through the 'living educational theory' approach, I was able to move through my concerns towards imagining a way forward as I asked, researched and answered the question, 'how can I improve my practice?' In my thesis, I also sought to create my 'pedagogy of the unique' by showing how the values that emerged in my practice became living standards of judgement. My research involved supporting participants (students on the postgraduate programmes) and encouraging them to critically evaluate their practice. These participants were collaborators in my educational journey and not subjects to be studied. The values that have emerged in the course of my practice include a commitment to a 'pedagogy of the unique' and weaving a 'web of betweenness' (O' Donohue, 2003).

Pedagogy of the unique

In my thesis, I intend to show how the educational values that inform my 'pedagogy of the unique' for higher education have emerged through my practice. I will show how I provide an open and collaborative space for participants to articulate the process of their own learning as they provide evidence of how they are improving the learning capacities of the students for whom they in turn are responsible. This shared space involves classroom and online learning environments.

'Pedagogy of the unique' expresses my belief that each participant has a particular and distinctive constellation of values that motivates his/her enquiry and that sets a distinctive context within which that enquiry proceeds. This is based on my belief that participants bring to their learning their own previous life knowledge and experience. I demonstrate how I help to develop each participant as a person in relation to one another rather than being preoccupied with the advancement of their content knowledge.

In the context of my 'pedagogy of the unique', the dialogic processes reflect my growing openness to learning and relearning with others, and reveals my belief that education should be a democratic process that gives adequate "*space to each participant to contribute to the development of new knowledge, to develop their own voice, to make their own offerings, insights, to engage in their own action, as well as to create their own products*" (Barnett, 2000, p. 161). I believe that I have intimately related teaching with learning processes by gradually providing opportunities for participants to accept responsibility for their own learning and to develop their capacity as learners. I provide space within the learning environment so that each participant can create a narrative of his/her own learning. These narratives have been accredited within the academy at Master's degree level.

It is interesting to note that Barnett and Hallam (1999, p. 145) are concerned that much of the research on pedagogy in higher education is limited since its focus is on how the student acquires a body of knowledge rather than exploring their adjustment to the conditions of 'supercomplexity'.

Supercomplexity refers to conditions in which, persons are presented with conflicting frameworks for the understanding of particular situations. Van Manen (1991, p. 31), believes that "*the word pedagogy brings something into being. Pedagogy is found not in observational categories, but like love or friendship in the experience of its presence – that is, in concrete, real-life situations*".

Web of Betweenness

The notion of love or friendship suggests a dialogic approach to learning and that we learn in relation to others. Freire (Freire & Macedo, 1999, p. 48) argues that "*I engage in dialogue because I recognize the social and not merely the individualistic character of the process of knowing. In this sense, dialogue presents itself as an indispensable component of the process of both learning and knowing*".

The Celtic spiritual tradition is among the most ancient in Europe and has its origin nearly 3000 years ago. A great legacy that early Celtic Christians passed on to the universal Christian church was the gift of the soul friend: "*Being a soul friend is making room in our lives and hearts for the sharing of others' stories*" (Sellner, 2004, p. 230). The Gaelic term for soul friend is anam cara. 'Anam' is the Gaelic word for soul and 'cara' for friend. The Irish Theologian and Philosopher, John O'Donohue, understands spirituality as being intimately linked with inter-personal relationships and the community. He does not see community as something that is produced but believes that it has to be allowed to emerge: "*True community is not produced. It is invoked and awakened. True community is an ideal where the full identities of awakened and realized individuals challenge and complement each other. In this*

sense individuality and originality enrich self and others" (O' Donohue, 2003, p.133). Each individual's uniqueness can enrich the community. O' Donohue suggests that in the folk culture of the Celtic Imagination, experience was understood as being much more than the private product and property of an individual. "*In the intuitive world-view of the Celtic Imagination, the web of belonging still continued to hold a person, especially when times were bleak*" (O' Donohue, 2003, p. 132).

O' Donohue reminds us that:

> *"In Catholic theology, there is a teaching which is reminiscent of this. It has to do with the validity and wholesomeness of the sacraments. In a case where the minister of the sacrament is unworthy, the sacrament still continues to be real and effective because the community of believers supplies the deficit. It is called the ex-opere-operato principle. From the adjacent abundance of grace, the Church fills out what is absent in the unworthiness of the celebrant. Within the embrace of folk culture, the web of belonging supplied similar secret psychic and spiritual shelter to the individual. This is one of the deepest poverties in our times. That whole 'web of betweenness' seems to be unravelling. It is rarely acknowledged anymore, but that does not mean that it has ceased to exist. The 'web of betweenness' is still there but in order to become a presence again, it needs to be invoked. As in the rainforest, a dazzling diversity of life-forms complement and sustain each other. There is secret oxygen with which we unknowingly sustain one another".*
>
> (O' Donohue, 2003, pp. 132-133)

O' Donohue's conviction that a 'web of betweenness' generated a collective bonus is reminiscent of the economists' notion of 'total factor productivity' – the unexplained residual productivity created by a combination of favourable factors. His idea of community however extends beyond the social community to the idea of a community of spirit and relates more strongly to the educational values I discuss than the economists' residuals: "*The human self is not a finished thing, it is constantly unfolding*" (O' Donohue, 2003, p. 142). I have used the notion of a 'web of

betweenness' in my thesis as a way of expressing my understanding of 'power with', rather than 'power over' others.

In my thesis, I show how participants develop their own sense of being as they learn in relation with others. I seek to suggest that the communications rich characteristics of ICT can re-create in new forms the powerfully interactive traditional world whose passing O Donohue laments and justify applying O Donohue's term. ICT and emerging media technologies can support a dialogic-collaborative approach to learning and bring us closer to the meanings of our educational values as they emerge in the course of our practice.

Summary

So far in this chapter, I have explored key themes relating to my own educational development as they have emerged in my practice. I have defined the standards of judgment I will use to judge my practice-based research. I have highlighted the particular educational values that underpin my work and the role ICT plays in teaching and research. A guiding theme emerging from this brief account of my teaching and learning experiences is my abiding commitment to improving my practice through reflection upon and research into my own teaching and through using technology to enhance its efficacy. This is inspired by my belief that this process is above all driven by personal creativity of teacher and student in the educational encounter. Another value which relates to my perception that teaching and learning can be interlinked through broader collaborative research endeavors that can energise learning activity across wider dimensions, enlarge and explore appropriate bodies of

knowledge with a view to opening new paths to the benefit of participants' own understanding and that of others with similar interests.

Overview of Thesis

My enquiry takes place in the context of the M.Sc. in Computer Applications for Education and M.Sc. Education and Training Management (ICT) at Dublin City University (DCU). My enquiry has involved me in researching my practice over a six-year period and is intended to show how I have contribute to my own learning, the learning of participants and in the education of social formations.

In chapter two, I discuss national and international reports and literature that suggests that there is a need to review the relationship between teaching scholarship and research in higher education. There is a growing recognition that applied or practice-based research stands "*at the intersection of many interest groups and thus of many interpretations of quality; any assessment of quality, therefore, needs to be multi-layered and multi-dimensional in the approach*" (Furlong and Oancea, 2005, pp. 9-10). Action research and reflective practice have attracted a growing interest in recent years and are seen as models that can contribute to more theoretical knowledge while at the same time achieving changes in practice. As my work is in the context of higher education, I relate to the growing awareness that universities must do more than 'stretch the mould' in their use of ICT in teaching and learning. I have argued that universities need to relate to new teaching and learning realities that include learners who come from more diverse backgrounds, learners who are learners in the context of lifelong learning, as well as the growing internationalisation of education e.g. distance education that makes use of ICT.

In chapter three, I explore how teaching and research have been separated in the context of higher education, and that there have been omissions in the literature on pedagogy in higher education relating to the nature of knowledge, as well as the teacher's role in the production of knowledge. I explore why teaching needs to be understood as a valid form of scholarship, and why teachers need to be involved in taking a more critical stance with regard to their practice. I argue that they can achieve this by inhabiting knowledge based communities of practice as they learn to question the content and purpose of their teaching. Like Shulman, I believe that scholarship must be more than local; *"To call something 'scholarship' is to claim it is public not private, that it is susceptible to peer review and criticism, and that it is something that can be built upon by others*" (Shulman, 2004, p. 209).

In chapter four, I explore ICT theories and I point to a need for higher education authorities to develop and implement a strategic policy for ICT. I argue that higher education needs to recognise that the changing needs and demands of new types of learners bring new challenges to the way teaching and learning are understood. I argue that ICT can support new forms of teaching and learning. There are implications for me, in my practice-based research. I believe that I should develop a critical stance to my own pedagogy as I endeavour to make appropriate use of ICT.

In chapter five, I explore different forms of research. I outline the various forms of action research including a 'living educational theory' form of action research. This allows one not only to improve practice, but allows one to develop theory from the ground of practice.

I explain why I have chosen to use a 'living educational theory' approach. In the context of my doctoral research, my educational values become living standards of judgement that allow me to judge my practice-based research.

In chapter six, I explore my work in the context of the M.Sc. in Computer Applications for Education, and how I have recognised myself as a 'living contradiction', in the sense of holding values and negating these values in practice. I endeavour to involve and support participants in creating their knowledge from the ground of their own practice. I show how I have faced up to various challenges of introducing a 'living educational theory' approach to action research into the Academy. What can be seen emerging from my practice is that I have collaborated with participants as I negotiated with them in co-creating the curriculum, and how I learned to move away from viewing the curriculum as a product that I produce. In other words, values that emerge for me in my role as a higher education educator are that participants should be critical and active participants who are engaged in co-creating knowledge; that this process involves dialogue and that I should help participants to relate to the content and process of their work by supporting them as they engage in researching into their own practice in ICT.

In chapter seven, I explore my influence in the learning of participants on the M.Sc. programmes as they carry out research for Masters dissertations. I show the processes that are involved in my supervision, as the value of a 'web of betweenness' emerges in practice as I support teachers to develop and improve their practice.

This involves validation group meetings that are intended to help participants to develop their learning in the context of peers, and I engage them in developing their understandings through dialoguing with other researchers and academics. I believe that by engaging participants in dialogue that I can support them to widen and deepen their perspective about teaching and meet the challenges they face in the contexts of their practice. In addition, I show how I have helped participants to communicate their knowledge base of practice to a wider community through conference presentations, peer reviewed articles and a Comenius European project [WWW5].

In chapter eight, I show how I have successfully achieved my goal of developing the capacity of participants to be proactive in developing their knowledge in collaboration with each other. Participants are seen shaping their own learning environment, e.g. setting up their own on-line learning environments; posting their own concerns and responding to one another in a way that shows that they are accepting responsibility to collaborate and dialogue by using ICT in order to develop new understandings. They are seen engaging in reflective interactions that relate to concerns that they have identified in the context of their practice.

Chapter Two

National and International Policies in Higher Education Teaching and Learning

Introduction

In this chapter, I outline the historical background to teaching and learning in higher education in Ireland and the UK. I examine what relevant national and international reports have to say about teaching and learning in higher education. I suggest that teaching and learning have not been traditionally perceived by higher education authorities to be as important as they should have been. I trace the developments that have been taking place to put teaching and learning on a more professional basis. In addition I discuss recent endeavours to link teaching, learning and research.

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Developments in schooling in Ireland: Irish context

The 1967 Report of the Commission on Higher Education (Coolahan, 1981) was a landmark document for higher education in Ireland. The methods of university government and academic appointments were criticised. It predicted that with the introduction of free education there would be a growing demand for places in higher education. To fulfil the demand it recommended the establishment of new colleges in Dublin and Limerick and later in other urban areas. In 1968 a student scheme was introduced for third level education. This provided valuable support to enable students to avail themselves of a higher education. The Report of the Commission on

Higher Education had drawn attention to the inadequacies of technological and technical education. Regional Colleges were established in key urban centres, e.g. Cork, Limerick, Galway, Sligo, Dundalk, Athlone, Carlow and Letterkenny. This reflected the government priority of promoting technological and applied studies.

The National Institutes of Higher Education (NIHE) were set up in Dublin (present day Dublin City University) and Limerick (present day University of Limerick). The Dublin NIHE received its first students in 1980. The growth in population in the greater Dublin area - an increase of 66 percent between 1971 and 1979 – (Coolahan, 1981, p. 251) led to an unprecedented building programme to cater for larger student numbers and to provide up to date equipment and facilities for teaching, learning and research.

Widening access to higher education, greater diversity of courses and various forms of course delivery have put pressure on the budgets of the Department of Education and Science. At present, there is a severe strain on the budget allocation to university education, and universities are being called upon to deliver more for less. Greater competition between institutions has increased the demand for higher productivity within the university sector. It is, therefore not surprising that there is an increasing interest in the processes of teaching and learning in higher education and, in particular, a concern to discover what efficiencies can be achieved without affecting quality of teaching and learning.

Ireland's first colloquium on university teaching and learning

In 1998 the Irish Universities Training Network sponsored Ireland's first Colloquium on University teaching and learning in higher education. The outcome of this Colloquium was the setting up of the All Ireland Society of Higher Education (AISHE). Teaching and learning are seen as the core of the objectives of the activities of AISHE. The establishment of AISHE was due to a sense of frustration on the part of practitioners with regard to the status of teaching and learning in higher education. On delivering his keynote address at the Colloquium, Noel Treacy, TD (Teachta Dála) commented on the huge changes that had taken place in Irish higher education. He referred back to the 1970s as a time when third level education was a luxury reserved for the middle classes (Irish Universities Training Network, 1998) and to the increase in participation rates in higher education that had occurred since then. In 1984-1985 about 39 percent of eighteen year olds were in full time education. By 1993, actual enrolments in higher education in Ireland had doubled from the 1984 figure. In his address Treacy pointed to the need for a vigorous policy of staff development, and need for clear policies to encourage higher education teachers to focus on teaching students how to learn and how to take initiatives. Staff development programmes were needed to encourage constant innovation in curriculum, teaching methods and ways of learning, and appropriate status should be accorded to teaching in higher education.

I report below on the discussions that took place within two relevant working groups at the Colloquium: the Accreditation and Teaching Development and the Performance Development for Academic Staff groups.

The Accreditation and Teaching Development group stressed the importance of putting policies in place in institutions to ensure that teachers could gain incentives and rewards for good teaching. It recommended the dissemination of models of good teaching and learning practice that allowed the sharing of expertise; it stressed the need for a strategic plan in universities to ensure development of teaching and learning. It commented that higher education staff members are not prepared formally for their primary role, that of teaching. The group offered detailed recommendations to five different parties: Government, Institutions on Teaching Development, to Institutions, Faculties and Departments, and Individual staff members. Firstly, they referred to the need for Government to develop and implement policies for higher education and to provide funding to enable institutions to fulfil their mission. Secondly, Institutions on Teaching Development should make resources available to strengthen teaching programmes and to raise their status in the academic community. Thirdly, Institutions themselves, should adopt a performance development scheme for teachers, that move beyond appraisal and review processes. Fourthly, Faculties and Departments should hold regular Departmental Performance Reviews. In the final recommendations to individual academic staff members, the group stressed the need to focus on the future, rather than dwelling on any shortcomings of current appraisal systems.

The Performance Development for Academic Staff group reported on problems with an external appraisal of teaching. They pointed to external assessment reviews that had been carried out by Lonsdale in Australia, Hughes in UK and Licata in USA. After reviewing the Australian experience, Lonsdale (1998, p. 2), concluded that in

the majority of institutions, external appraisal of teaching had not resulted in expected staff development results. Hughes' (1998, p. 3) report in the UK concluded that appraisal had as yet to fulfil its considerable promise. Licata and Morreale (1996, p. 33) report in the US concluded that the actual benefits of instituting post-tenure review appeared to outweigh the costs. The group pointed out that institutions not wishing to have external evaluation schemes imposed on them should develop their own in a professional manner. This group pointed to the fact that few academic staff in Ireland have a teaching qualification and entry to the profession is usually through a research degree, which lacks relevance when it comes to helping staff to cope with rapidly changing learning environments. Since this Colloquium, universities have established Centers for Teaching and Learning and have begun offering or are developing professional development courses, such as Certificates in Teaching and Learning for staff.

Skilbeck report on higher education in Ireland

In 2001, Malcolm Skilbeck was commissioned by the Higher Education Authority (HEA) of Ireland to write a report on higher education in Ireland. In his report, entitled 'The Challenge of Higher Education in Ireland', Skilbeck drew attention to the challenge for higher education staff; "*New and improved ways of teaching students is one of the challenges facing higher education staff*" (Skilbeck, 2001, p. 73). He points to weaknesses in institutional policies; for example, despite general recognition of the centrality of teaching, many institutions have failed to make teaching excellence an important factor in career advancement and recognition (Skilbeck, 2001, p.87). He refers with approval to Trow's perceptive remark that "*almost everything in a university depends on the inner motivation of teachers – their sense of*

pride, their intellectual involvement with their subjects, their professional commitment to the role of the teacher, their love of student or of learning" (Trow, 1989, cited in Skilbeck, 2001, p. 87). He expresses the fear that institutions have not fully understood how teacher commitment can be enhanced by appropriate institutional recognition. He sees shortcomings in the methods of teacher appraisal and contrasts these with institutions' relative ability to appraise and recognise the achievement of research excellence. Skilbeck pointed out that, unlike teaching, research has widely accepted criteria for assessing its performance. Skilbeck claims that there is a widely held view that "*a vigorous, broadly defined research culture should pervade all parts of the university and that there should be a constant endeavour to engage students in all levels in critical, systematic inquiry – which is the essence of research*" (Skilbeck, 2001, p. 94). This is to be applauded but a greater recognition of the process of disseminating the research urge, and the problems that can be encountered in doing so, would provide a better balanced statement of the Universities' raison d' etre. On the other hand, Skilbeck recognises that universities have been putting in place various procedures for the better recognition and strengthening of teaching. He highlights the possibilities offered by new technology:

With the advent of technology-rich teaching on a large scale there are many opportunities for creative and innovative teaching and new relationships both with students and the shifting world of knowledge (Skilbeck, 2001, p. 89).

Submission to O.E.C.D. review of higher education in Ireland

The Higher Education Authority (HEA) is the planning and advisory body for higher education in Ireland. A key function of the HEA is to allocate state funding for

teaching and research to the universities in Ireland along with other designated institutions. In 2004, the HEA made a submission to the Organisation for Economic Co-operation and Development (OECD) Review of Higher Education in Ireland which is quite revealing. I refer specifically to what it stated about teaching and learning in higher education.

> *The HEA observes that teaching and learning are central to the higher education system, and that it is important for institutions to continuously develop and enhance their teaching and learning processes, in particular to take account of new ways that learners can participate in higher education. The HEA commits itself to supporting institutions in measures to promote quality teaching.*
>
> (HEA submission to OECD, 2004, par. 21)

The HEA submission highlights the central role of teaching and learning, and states that it encourages institutions to continuously develop and enhance their teaching and take account of new ways in which learners can participate in higher education. The HEA affirms that it will continue to play a role, through the funding framework, in supporting the institutions in measures to promote quality teaching. The manner in which it is done was not specified.

The All Ireland Society of Higher Education (AISHE) also made a submission to the OECD Review of Higher Education in Ireland. It stressed the vital contribution of higher education to the establishment and maintenance of 'open societies' - societies whose citizens are free and *empowered* to engage in continuous innovation and

critical learning, rather than locked in dogmatic or authoritarian ideas. The AISHE submission averred that the most distinctive aspect of 'higher' education was precisely that it is based on *critical* rather than *authoritarian* learning (Submission by AISHE to OECD Review of Higher Education in Ireland, 2004).

Developments in UK higher education: UK context

If we look back on access to higher education prior to 1963, it is evident that, up to that point, higher education had mainly been the province of the rich. By then a larger proportion of the academically gifted were gaining access and, after the adoption of the 'Robbins Report on Higher Education' (1963) access was extended in principle to all those capable of benefiting from a university education. In practice, university education remained largely the preserve of children of parents in higher social classes. As for university teachers, appointments to higher education were made on the basis of candidates' higher degree qualifications, or on the basis of evidence of their research achievement and their ability to push forward the frontiers of knowledge. In other words, there was no real effort made to find out whether these academics had appropriate teaching skills. In short, the art of teaching was not understood as being of critical importance in the context of higher education.

The increasing need for vocational, professional and industrial type programmes, and the recognition in the UK that universities could not fully meet this need, resulted in a White Paper entitled, 'A Plan for Polytechnics and Other Colleges' (1966) that proposed the setting up of Polytechnics and other Colleges. The idea was to place non-university higher education in polytechnics in England, Wales, Northern Ireland and Scotland. This led to the development of the 'binary system' or two-tier system of

higher education in the UK which, in turn, had echoes in Ireland, and indeed in France, Germany and other countries. The introduction of polytechnic education in the UK brought about the following developments that diverged in varying degrees from traditional university practice: multidisciplinary courses; entrants who were less academically qualified; more part-time students, and adults taking up the opportunity to return to study; separation of teaching from research; evaluation and validation of courses and their teachers through the Business and Technology Education Council (BTEC) and Council for National Academic Awards (CNAA) validation processes.

The CNAA opened up questions about teaching methods and teaching quality. BTEC, and more particularly, CNAA validations obliged polytechnics to address issues relating to teaching quality throughout the 1970s and 1980s. Initially, course validators and the polytechnics were chiefly interested in evaluating and improving the ability of staff to offer courses at a sufficiently advanced academic level. Emphasis was placed on staff involvement in subject relevant research. Reaching the requisite standards often involved increasing the unit of resource (staff:student ratio) and raising staff salaries. A major change in approach came about in the early 1980s when central government in the UK assumed greater responsibility for the finance of polytechnics. The result was a reduction in staff, and encouraging polytechnics to teach more students with the same staff complement. The UK universities moved in the same direction as the Polytechnics, but at a slower pace, and without the polytechnic quality appraisal processes until the publication of the National Committee of Inquiry for Higher Education (NCIHE, 1997).

The UK Government managed to contract one higher education sector while expanding another. In the 'Public Expenditure White Paper' (1981) the UK Government stated that there would be a reduction of 8 percent in expenditure in further and higher education, over the following three years. This expectation arose from the fact that twenty years earlier, birth rates fell in the United Kingdom and Government therefore anticipated that higher education demand would decrease when the relevant age cohorts reached university age.

As mentioned above, the actual participants in UK higher education were predominantly drawn from the higher social classes. There had been no significant reduction in the birthrate of these wealthier classes twenty years before. In addition, a major recession in the early 1980s reduced the employment opportunities for young people and this forced them to consider gaining higher qualifications. The consequence of this was that the university sector was forced to shrink and did so while maintaining teaching quality by the traditional method of maintaining favourable staff student ratios - protecting the unit of resource was the phrase used. That meant cutting back on student entry. However, there was an increasing numbers of young people trying to get higher qualifications. As they were unable to gain university entry, they turned to the polytechnics. Although the Government had cut back on university places, they encouraged polytechnics to take more students and rewarded them for doing so. With this increase in numbers, it became increasingly doubtful whether quality in teaching was being maintained.

With the 'White Paper on Higher Education: Meeting the Challenge' (1987) there was a distinct change in government policies towards higher education. There was the

start of a commitment to increased participation rates and to widening access to higher education for more mature learners. On the other hand, Government was unwilling to pay the extra cost of teaching more students. Government began to talk about productivity and institutions began to talk about questions of quality. This initiated a debate on the value for money, with a focus on teaching and research, increased efficiency, improvements in management and development, and the use of performance indicators. The White Paper 'Higher Education: A New Framework' (1991), recommended removing the two-tier or 'binary system' between universities and polytechnics and higher education colleges. The United Kingdom moved toward the setting up of a unitary system of higher education. Polytechnics and Institutes of Higher Education were allowed to use the term 'university' in their title, provided that they satisfied certain criteria.

As mentioned above, since the 1970s the number of students participating in higher education in the United Kingdom had increased. There has been similar growth in the Republic of Ireland. When the student staff ratios had been 10:1, academics in higher education did not need to examine too closely their methods of teaching and learning. The emphasis was on the subject content and on research. It was considered important that the academic be actively engaged in researching the subjects s/he discussed with students and not that s/he should have a teaching qualification. Likewise, when entry to university had been highly selective, and selective secondary school systems allowed universities to select around 10 percent of the most talented students from the relevant age groups, little attention was given to how students' learned as the students had come from academically orientated schools. The role of the academic was to

bring the students to the boundaries of existing scholarship and to point towards the next advances in research.

Wider participation in higher education and its effect on teaching and learning

The National Committee of Inquiry into Higher Education (NCIHE, 1997) report was drawn up in the wake of increases in student numbers in UK higher education. The report highlighted the need for increased and wider participation in higher education, and also the need for the curriculum to be more learner-centered.

> *Many students will be mature students increasingly aware of the knowledge and skills that are valued in employment.*
>
> *Teachers in higher education will have to respond to a changing - and more discerning and demanding - student population.*
>
> *Teachers will need to deliver a learning experience in higher education which enthuses students to become lifelong learners.*
>
> (NCIHE, 1997, chap. 8)

In the report, Dearing pointed out that there was an "*inadequate recognition of teaching excellence in higher education institutions*" (NCIHE, 1997, chap. 8). He was convinced that higher education institutions would need to continue to emphasise the centrality of learning and teaching in all their work. The importance of research and scholarship in informing and enhancing teaching was not overlooked in the report.

Traditionally, the link between research and teaching in higher education was not questioned. In the United Kingdom system core funding for universities' research was

assumed as a proportion of the grant accorded by Government for teaching. In few other European countries was the linkage quite so close. But, over the past twenty years, UK universities have been obliged to distinguish increasingly between their teaching and research functions. In the 1980s the British government began to make attempts to fund the two separately. It began to assess the performance of universities with respect to research through Research Assessment Exercises (RAEs). The next idea was to use these assessments of institutional research performance to determine the level of funding each institution should receive. Meanwhile teaching in universities was still funded on the basis of a formulae that reflected numbers rather than any assessment of the quality of teaching. This form of funding system allowed universities to improve the quality of their research while neglecting the quality of teaching. Dearing was aware of this risk and urged (NCIHE, 1997, chap. 8) that "*in pursuit of a national strategy of excellence, we are convinced that the enhancement and promotion of learning and teaching must be a priority for all of higher education*". He referred to an analysis of the impact of the 1992 Research Assessment Exercise (RAE) in higher education institutions in England that alleged that the RAE devalued teaching since research assessment was closely linked to the allocation of large sums of money, whereas teaching assessment was not. Dearing pointed out that almost every higher education institution in the England entered the RAE exercise - regardless of whether the primary mission of the particular university was to research or to teach. He believed that this indicated the influence that RAE had on institutions' activities. He highlighted the importance of higher education institutions continuing to emphasise the centrality of learning and teaching in all their work.

Changing patterns of learning

The motivation to improve the quality of teaching and learning in higher education led to the recommended setting up of an Institute of Learning and Teaching (ILT) to oversee the development of teaching and learning, and to accredit teacher-training courses. The aim was to place higher education teaching on a more professional basis. Dearing envisioned that; "*The Institute is about the profession itself taking responsibility for raising the standards and standing of its own central professionalism and getting proper recognition for achievement in a way which has been denied by the rewards system in the past*" (NCIHE, 1997, chap. 8).

The ILT was set up in 2000 with the stated aim of enhancing the status of teaching, improving the experience of learning and supporting innovation. The ILT has had its critics. Rowland believes that the ILT is "*steeped in a discourse of skills and competencies*" (Rowland, 2000, p. 30). He believes that "*improving teaching involves critique, personal enquiry and openness to change*" (Rowland, 2000, p. 99). Pickering also casts doubt on the approach used by ILT. She believes that it promotes the view that effective teaching can be defined in terms of a set of skills or techniques, that are, to a significant extent, transferable between teaching and learning contexts. She believes that the researcher and the researched bring their own personal theories into the teaching and learning process. Pickering's stance reflects a growing belief among practitioners that political and economic pressures on teaching and learning in higher education do not necessarily lead to more effective practice. She debunks the myths of the dominant view of the need for external assessment and suggests that it is

only through the practitioner becoming involved in developing their own conception of teaching that free them to develop as practitioners (Pickering, 2002, p. 28).

Towards a framework of professional teaching standards

In February 2002, the Teaching Quality Enhancement Committee (TQEC) was set up to review the arrangements for supporting the enhancement of quality in learning and teaching in higher education. The TQEC published a report in January 2003 that proposed the creation of a single, central body to support the enhancement of learning and teaching in higher education – the Higher Education Academy. The establishment of the Higher Education Academy is seen as a unique opportunity to improve and enrich student learning through innovative professional development for staff. The establishment of the Higher Education Academy is intended to build on the work of the Institute for Learning and Teaching in Higher Education (ILTHE) and on the contribution of the Learning and Teaching Support Network (LTSN) to the development of subject-based and generic teaching practice. A national consultation document 'Towards a framework of professional teaching standards' (2004) was issued by Universities UK, the Standing Conference of Principals, The Higher Education Academy, The Higher Education Funding Council for England, The Scottish Higher Education Funding Council, The Higher Education Council for Wales, The Department for Employment and Learning Northern Ireland following preliminary discussions with the Higher Education Academy and an external stakeholder group. The consultative document invited comment, observations and suggestions on the proposal to commission work through the Higher Education Academy on the development of professional standards for academic practice and continuing professional development that will support teaching and learning in higher

education. The origin of the aforementioned consultation document was in the White Paper, 'The Future of Higher Education' (DfES, 2003) that stated that from 2006 all new teaching staff in higher education should obtain a teaching qualification that incorporates agreed professional teaching standards. It is interesting that in feedback on the consultative document, a large number of respondents stressed that they would like to see a proposed framework based on, or incorporating professional values as an alternative to the conventional, competence-based approach to standards.

Assessing quality in applied and practice-based educational research

There is a growing recognition of the need to see a closer link between research, practice and policy. There is a recognition of the need for research to contribute to solutions and thus the idea of evidence informed policy and practices have gained support. This is evident in a recent framework for discussion document called 'Assessing Quality in Applied and Practice-based Educational Research by Furlong and Oancea (2005) at Oxford University, UK. In their report, the authors point out that traditionally it has been assumed that there is a distinction between the worlds of research and the worlds of policy and practice. "*The world of research was based on explicit, systematic work aimed at the growth of theoretical knowledge*" (Furlong and Oancea, 2005, p. 5). On the other hand, "*practice and policy were seen as taking place in a world based on tacit knowledge and practical wisdom*" (*ibid*). This new recognition of the research/practice and policy relationship is written in to the UK Government's RAE 2008 which states that researchers should be able to submit applied and practice-based research that they consider to have achieved 'due standard of excellence'. Within the UK, the RAE – Research Assessment Exercise is one of the most important definers of research quality. It bears repeating that: "*Where*

researchers in higher education have undertaken applied and practice-based research that they consider to have achieved due standards of excellence, they should be able to submit it to the RAE in the expectation that it will be assessed fairly, against appropriate criteria" (RAE 2008, par. 47).

Increased importance of learning and teaching in higher education

The recognition of the importance of teaching and learning in higher education and the increased funding that is currently being provided to Institutes of Higher Education is documented in 'Towards a framework of professional teaching standards' (2004).

The following approaches have been introduced by the UK Higher Education funding bodies to promoting the quality of teaching and learning in higher in England, Northern Ireland, Scotland and Wales. I will also refer to approaches in the Republic of Ireland.

In England, additional funding has been provided to institutes by the Higher Education Funding Council for England (HEFCE) to recognise and reward excellent teaching practice.

In Northern Ireland, the Department for Employment and Learning Strategic Plan 2003-2006 made a commitment to investing substantial effort and resources to enhance the quality of learning and teaching.

In Scotland, the Scottish Higher Education Funding Council (SHEFC), in partnership with the Scottish HE sector and student representatives' claims to place particular emphasis on learner experience and supporting institutions to continuously improve their approaches to teaching and learning. SHEFCs has set a target that all teaching staff be professional competent, not only in their discipline but also in teaching skills by 2006.

In Wales, the Higher Education Funding Council (HEDCW) corporate strategy 2003-2010 has identified a range of priorities for the 2003-04 to 2005-06 planning period, which includes the need to develop a mechanism for rewarding high quality teaching.

In the Republic of Ireland innovation in teaching and learning in higher education is supported through the targeted initiative programme which is allocated by the Higher Education Authority in Ireland.

Conclusion

In this chapter, I have explored the needs and challenges of teaching and learning in higher education. The literature, reports, and historical survey of educational developments in UK and Ireland, suggest that developing teaching and learning have only been seriously addressed in recent years in higher education. This is surprising, as teacher certification has been part and parcel of primary and post primary education for centuries. There are of course obvious reasons for the present interest and demand for developing teaching and learning in institutions that have paid little regard to teaching and learning processes in the past.

While research has been given a high status in higher education, teaching and learning has traditionally been seen as separate from research. Higher education institutions are currently addressing this deficiency. There is a growing awareness of the need for teaching to be seen as a 'scholarship' and a growing awareness of the need to see practice-based research as a valid form of research. Hence I will now focus on pedagogies in higher education.

Chapter Three

Pedagogies in Higher Education

Introduction

In this chapter, I explore the literature on the nature of teaching and learning in higher education. I suggest that new ways of teaching and learning need to be found that critically engage students in rich learning environments. As mature and more diverse types of students enter higher education, it is vital that the traditional role of the educator as one who offers content knowledge is broadened so that teaching is aimed at developing students' capacity to create their own understandings and insights through participation, negotiation and dialogue. Zukas and Malcolm (2002) highlight five identities of the educator in their review of the literature on pedagogy in higher and adult education. I intend to use these five identities as a framework to explore a range of understandings of pedagogic work in the literature on higher education. I argue that current versions of pedagogy in higher education have separated teaching from research and that a new form of pedagogy that involves practice-based research needs to be promoted. I will briefly explore what the literature has to say about professional development of teachers in higher education.

Pedagogy in higher education

Pedagogy is often referred to as the activities of educating, or instructing or teaching, the activities that impart knowledge or skill. The Oxford English dictionary (2002) defines pedagogy as the profession, science or theory of teaching. Watkins and Mortimore (1999, p. 1) refer to 'pedagogy' as derived from French and Latin

adaptations of the Greek word for 'boy' and 'leader', meaning a man having oversight of a child. Defined in this way, pedagogy is seen as the art and science of teaching children. To distinguish between adult learning and child learning, Knowles proposed a new theory of adult learning, which he termed andragogy. 'Andr' means 'man' thus andragogy is a suitable term for the science and art of helping adults to learn (Knowles, 1995, p. 82). Knowles cast doubt on the appropriateness of applying the term pedagogy to the teaching of adults. As for the more commonplace term, pedagogy, Simon, in his article '*No Pedagogy in England*?' deplores English unwillingness to use a word that he claims, holds an honoured place, in the educational tradition of the European Continent. Simon believes that this stems back to the work of Comenius in the seventeenth century. Simon, (cited in Leach & Moon, 1999, pp. 34-35) places the responsibility for English unhappiness with the idea of a science of teaching on the elitist, class-dominated private school tradition, which he believes to be a peculiarly English characteristic. Simon asserts that this is why education, as a subject of enquiry and study, has had little prestige in England. Levine makes the same point without entering into any comparative historical explanation.

> *"In this society we certainly did not, still do not, grant the study of teaching [pedagogy] either the standing of a science or the practice of an art form. Indeed historically we have defined the study and practice of teaching narrowly and even if unconsciously, we have arranged things so that the profession and its practitioners have every possible kind of low status conferred upon them".*
>
> (Levine, 1992, p.197)

A dialogue with the literature on pedagogy in higher education

Although higher education is beginning to include a wider and broader range of students, Zukas and Malcolm (2002, p. 1) assert that adult education is still regarded as belonging to a separate sphere from higher education proper even when adult education is provided through universities. They found that the new specialism of teaching and learning in higher education had developed without reference to adult education. Neglecting the strongly self-motivated adult learner has tended to impoverish many current approaches to teaching and learning.

In their review of the literature, Zukas and Malcolm focus on the pedagogic 'identities' or versions of the educator, which represent the range of understandings of pedagogic work in 'mainstream' higher education literature. They focus on pedagogic writings in adult education and other established sectors of education, and the pedagogies emerging in the field of higher education. Their study was mainly UK based but also included sources from throughout the anglophone world, and to a lesser extent from European writings originating in the UK.

They identify five pedagogic identities in the literature surveyed:

1. The educator as critical practitioner.
2. The educator as psycho-diagnostician and facilitator of learning.
3. The educator as reflective practitioner.
4. The educator as situated learner within a community of practice.

5. The educator as assurer of organisational quality and efficiency; deliverer of service to agreed or imposed standards.

The educator as critical practitioner

Zukas and Malcolm (2002) emphasise the political roots of adult education whose promotion has so often been imbued with a strong sense of social purpose. By contrast they claim that the focus of higher education pedagogic writing is on 'teaching and learning,' as if it was a subject in its own right. They are nevertheless alive to the emergence of commentators holding a broader view and point to such writings on critical practice as Barnett's (1997) work on higher education and on 'critical being'. They also refer to writers such as Webb (1996), Walker (1999) and Rowland (2000), each of whom considers the 'why' of higher education rather than only the 'how'.

Ira Shor and Paulo Freire are well known critical pedagogists and their views on pedagogy are quite relevant to this discussion on teaching and learning in higher education. Shor and Freire's 'A Pedagogy of Liberation' (1987), emphasise the importance of dialogue in our learning. Freire believes that the openness of the dialogical educator to his or her own relearning gives dialogue a democratic character. He believes that through dialogue, "*we each stimulate the other to think, and to re-think the former's thoughts*". Furthermore, he points out that "*dialogue belongs to the nature of human beings, as beings of communications*" (Shor & Freire, 1987, p. 3). Shor contends that critical education has to integrate the students and the teachers into a mutual creation and re-creation of knowledge. Freire regrets that teachers are told that they have *nothing* to do with the *production* of knowledge: "*If I spend three*

hours with a group of students discussing, and if I think that this is not researching, then I do not understand anything!" (Freire, 1987, p. 8). Freire is adamant that "*dialogue is a moment where humans meet to reflect on their reality as they make and remake it*" (Freire, 1987, p. 98). According to Freire, dialogical education is an epistemological position. To return from Freire's seminal insights to Barnett's study of the present plight of higher education. Barnett claims that professional life is now becoming more than the handling of complexity i.e. managing overwhelming data and theories, it is also about handling multiple frames of reference – a condition he calls supercomplexity. Supercomplexity arises when we are faced with conflicting frameworks with which to understand a situation. Barnett asserts that the main pedagogical task of a university is not to transmit knowledge but to develop in human beings the attributes appropriate to conditions of supercomplexity (2000, p. 164). In order for this to become a reality, he claims that a 'higher education' must embrace three dimensions of being: knowledge, self-identity and action, in its pedagogies. In other words, new methods of teaching have to be developed in higher education. An educational requirement of supercomplexity is that the student should have the space to develop her own voice. Barnett regrets that lecturers often have an idea of teaching that puts the students in a subservient position. The followers of such an approach see students as recipients of a curriculum instead of largely choosing and/or making it themselves (Barnett, 2000, p. 163). The main values inherent in the approaches taken by those with a critical stance on the other hand are participation and dialogue.

The educator as psycho-diagnostician and facilitator of learning

In this context, it is worth considering the relevance to this discussion of two opposing theories of learning: the Behaviourist and the Cognitive movements.

Behavioural psychology was the first psychological approach to have a real impact on educational thought and practice. Skinner, a proponent of Behaviourism explored the influence of the environment on people's behaviour. The cognitive movement on the other hand grew from an awareness in educational circles of the need to find out what is going goes on in the mind during learning. This gave rise to the cognitive movement with the focus upon internal mental operations rather than external stimuli. Cognitive theory is a learning theory that builds from internal mental models whereas the behaviourists focused on the externally observable behaviour of humans. Therefore, the focus of cognitivism is on mental structures and acts. As applied to educational encounters, cognitive theories put the emphasis on the learner's thinking processes rather than on the teacher's action and the classroom situation. Zukas and Malcolm (2002) find that in higher education, literature focuses on diagnosing learners' needs, for example, following a particular learning theory (Brown, 1993), taking into account learning styles and skills (Boyatzis and Kolb, 1991), and concentrating on techniques and tools for the particular needs of the learner (Gibbs, 1992; Grenham *et al.*, 1999). Zukas and Malcolm warn that if learning is understood in this way, then pedagogy becomes reduced to nothing more than diagnosis and facilitation, and psychological approaches are used as tools to inform the ways in which practice takes place; that is, theory determines practice.

With reference to pedagogy in adult education in U.K., Zukas and Malcolm (2002, p. 4) find that forms of psychology, especially humanistic versions, have influenced much of pedagogy in adult education. Humanistic education emerged as a reaction to the behaviourist concern with external environment. According to Bertrand (2003, p. 310) the underpinning philosophy of humanistic education is that each individual

must determine and control his/her own path of development. Andragogy is based on humanistic assumptions that the adult learner is a self-directed human being who possesses rich prior experiences, has a readiness and orientation to learn related to the roles and responsibilities of adult life and is internally motivated.

Andragogy is based on the following four assumptions.

The assumptions are that, as a person matures,

1. his/her self-concept moves from one of being a dependent personality toward one of being a self-directed human being;
2. s/he accumulates a growing reservoir of experience that becomes an increasing resource for learning;
3. his/her readiness to learn becomes oriented increasingly to the developmental tasks of his/her social roles;
4. his/her time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his/her orientation toward learning shifts from one of subject-centredness to one of problem-centredness.

Knowles (1995, p. 96) states: '*I have described this faith in the ability of the individual to learn for himself as the 'theological foundation' of adult education*". Thus self-directed learning is seen as the underlying principle of andragogy. It is argued that the assumptions of andragogy are still based on a psychological model of learning. Hanson (1995) points out that rather than attempting to describe the various

ways in which adults learn, there is the danger of andragogy prescribing how adults should learn. In other words, the above assumptions could be viewed as general characteristics of all adult learners and as Hanson (1995, p. 103) points out andragogy could be seen as "*a form of abstract individualism rather than an engagement with learners themselves within their real life situations*". Thus the 'educator as psycho-diagnostician' could tend to view the learner as an individual and not move beyond the classroom to broader social or community environment. Shor (Shor and Freire, 1987) refers to a self-directed learner as a form of pedagogy where the teacher is a 'resource-person' and a 'mentor-on-demand' when the student asks for something. Freire also challenges the self-directed teaching approach and believes that education is always directive; "*Even when you individually feel yourself most free, if this feeling is not a social feeling, if you are not able to use your recent freedom to help others to be free by transforming the totality of society, then you are exercising only an individualist attitude towards empowering or freedom*" (Shor and Freire, 1987, p. 109). Thus, in this sense, pedagogy is not simply limited to a classroom situation but it should lead to social intervention.

The educator as reflective practitioner

Zukas and Malcolm (2002) point out that in much of the literature on higher education, reflective practice is presented as taken for granted 'good practice'. They point to the fact that while reflective practice has been contested as a concept in the literature of childhood education and adult education (e.g. Bright, 1996; Ecclestone, 1996), the conceptual basis of reflective practice have seldom been addressed in the literature on higher education (Eraut, 1995).

The idea of the reflective practitioner is usually attributed to Schön who wrote the book 'The Reflective Practitioner in 1983.

However, the concept of reflective practice dates back to Dewey. According to Dewey (1933, p. 9) "*Reflection is an active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds supporting it and future conclusions to which it tends...it includes a conscious and voluntary effort to establish belief upon a firm basis of evidence and rationality*".

Dewey understood reflective thinking as a form of intelligent action (1933, p. 17). Dewey (1933, p. 57) also emphasised the following characteristics or attitudes that were necessary to reflect on one's practice: 'open-mindedness', 'responsibility', and 'wholeheartedness'. Open-mindedness means that one is prepared to explore other points of view. Responsibility involves taking on board what you find and applying the information to other situations. Wholeheartedness means that one is able to critically evaluate and be prepared to deal with uncertainties in order to make meaningful change.

Schön brought the concept of 'reflection' into our understanding of what professionals do. In his book 'The Reflective Practitioner' (1983), he argues against the dominant model of 'technical rationality' and looks towards an epistemology of practice. According to Schön (1987), reflection occurs when 'knowing-in-action', or the knowledge that professionals depend on to carry out their work, spontaneously produces a surprise. This surprise can lead to either 'reflection-in-action' or 'reflection-on-action'. The former occurs immediately during the activity by thinking

about possible ways to reshape the activity. The latter occurs following or by interrupting the activity. However, Mc Mahon (1999, p. 167) points out that Schön's model lacks the rigour of action research.

The educator as situated learner within a community of practice

One of the characteristics of social-cognitive theories is that the construction of knowledge is built on interactions with people and the world (Bertrand, 2003). These interactions are seen as affecting cognitive development. On the other hand, cognitive theory does not take social interaction into consideration. In social cognitive theory, there is an emphasis on social learning, situated context, interactions among individuals, participation, cooperation and socially shared cognition (Bertrand, 2003, p. 164). Thus, Lave and Wenger (1991) state that participation in social practice is the fundamental form of learning. The learning communities model centers on the advancement of the collective knowledge of the community, and in this way, helps the development of individual student learning. It focuses on the development of a culture of learning in which everyone is involved in a collective effort of understanding. Wenger and Synder (2000, p. 139) define communities of practice as "*groups of people informally bound together by shared expertise and passion for joint enterprise*". The main idea underpinning this theory of a learning community is interdependence and participation in social practice.

The educator as assurer of organisational quality and efficiency

Zukas and Malcolm (2002) point to an element in teaching and learning in higher education, that looks at the contribution of teaching to the quality of an institution's activities (e.g. Ellis, 1993; Elton, 1987). They believe that this model often co-exists

with the 'educator as psycho-diagnostician and facilitator', in which the learners and teachers are constructed in ways that enable them to be regulated and controlled (Zukas and Malcolm, 2002, p. 5).

Analysis of pedagogic identities

In their review of pedagogic identities, Zukas and Malcolm point to the omission of the following from the pedagogic model: Vygotsky's ideas and the idea of the educator as disciplinary thinker. There is an omission in the literature on higher education pedagogy about the nature of knowledge and who is involved in the production and analysis of pedagogic knowledge.

In their review of the literature, Zukas and Malcolm explore the views held by each of the pedagogic identities. Within a critical practitioner stance, the educator has a social identity. The critical practitioner questions the content and purpose of their teaching. In this way, the pedagogic role of adult educators is not separated from the content of teaching. The key point is that critical educator inhabits 'knowledge-practice' communities, which are inter-disciplinary and pedagogic.

The educator as psycho-diagnostician separates the pedagogic from the discipline. Thus pedagogy is analysed in relation to 'teaching and learning' rather than playing any part in knowledge production. Within this model the focus is on the learner and how learning takes place within the learner. There is little regard for the socio-cultural situatedness of the individual. The learner is simply identified according to particular learning styles.

Zukas and Malcolm (2002, p. 5) raise a concern that the conceptual basis of reflective practice has seldom been addressed in the literature in higher education. It is worth taking note of Day's (1999, p. 224) suggestion that governments are now using 'reflective practice' as a means of promoting technical proficiency within the teaching profession.

Zukas and Malcolm (2002, p. 9) point out that the current version of pedagogy in higher education has come about due to the split between disciplinary and pedagogic communities in higher education and the split between research-based and pedagogic communities of practice. Thus teaching was seen as a separate activity to research. With the increase in a diverse study body, there is a need for "*differing strategies necessary to enable diverse adults to learn different things in different settings in different ways*" (Hanson, 1995, p. 105). The idea of one overarching theory for teaching and learning does not seem appropriate to accommodate the diverse student body now in higher education.

Evaluation of teaching and learning in higher education

In this section, I briefly explore what the literature says about the professional development of teachers within higher education.

In her book, 'Action Research in Higher Education: Examples and Reflections', Zubber-Skerrit (1992, pp. 67-75) discusses a study, which involved seven teaching academics at an Australian university, whose personal theories of professional development were drawn out using Kelly's repertory grid technique. Each of the academics had experienced at least six different methods of professional

development, including action research. Each participant in the study reflected individually on the various methods of professional development that they were familiar with. Results appeared to show that these academics believed that the best way to learn about university teaching is not to be given information and advice (on how to improve teaching) by outside experts who decide what academics should know but that university teachers could and should try to learn about teaching, as they do in their research about their discipline or particular subject area, such as a personal scientist (Kelly, 1963) and a problem solver (Popper, 1959; 1969) through active involvement, practical experience and reflection (or thinking) about the experience (Lewin, 1952; Kolb, 1984; Carr and Kemmis, 1986). An important condition is that these developmental activities be personally initiated, self directed and consciously controlled by the university teachers themselves. This kind of self-professional development is directly relevant to the individual teacher's needs. Tiffin and Rajasingham point to a meta study that was carried out by Griffith University, Australia of what constitutes good teaching in a university. The report, that drew on papers from UK, USA and Canada, points out that no single system of evaluation can ever measure teaching. "*There is no 'right' way to be a good teacher*" (Tiffin and Rajasingham, 2003, p. 59). However, they point to a 'new breed' of university administration with its roots in business culture that wish to standardise teaching processes that can be observed and understood by the student customer.

Ramsden acknowledges that the teacher's own conception of teaching is crucial in their professional development. He argues that telling teachers about effective strategies is not sufficient to improve student learning. He believes that the universities approach to quality in teaching and learning "*often still reeks of unskillful*

assessment practices" (Ramsden, 1994, p. 11). He stresses the need for teachers to be involved in self-assessment if they are to develop professionally. Ramsden discusses a teacher assessment process used within higher education in Australia that does not use 'expensive' and 'clumsy' inspection models. This particular assessment process requires self-evaluation by teacher linked to institutional objectives and then followed by external audit of the results of the process. This, he believes, allows each individual to have ownership over the teaching evaluation process through dialogue with others. He refers to the work of the Staff and Educational Development Association (SEDA) based in UK, which he believes, is an excellent example of how ideas about how students learn and how assessment and teaching affect their learning are integrated with the experience of teaching. SEDA have been running professional development and accreditation programmes since 1992.

Ramsden admits that there are no "foolproof techniques" (Ramsden, 1994, p.1) for guaranteeing quality in teaching, but that the effectiveness of education relies on teachers' professionalism, experience, and commitment. He points out that evidence of improvement is automatic evidence of accountability and summarises his views on assessment by saying that;

> *...it should provide plenty of feedback and encourage openness and co-operative activity. It should minimize anxiety and the sense of being continually inspected. It should be valid, generous, and fair. It should be the subject of a dialogue between assessors and assessed. It should not do anything that discourages people from trying to criticize their performance candidly, and from trying to use the information they gather about their performance to enrich what they subsequently do. It should encourage responsible self-assessment. It should be integral to teaching and learning, rather than additional to teaching and learning. It must lead to trustworthy judgements about academic performance.*
>
> (Ramsden, 1994, p. 9)

I believe that this offers a useful view of assessment that involves dialogue between teachers and others, and provides a sense of ownership of the process on the part of teachers. According to this view, the teacher is not just seen as an individual who is only self-directed but one who is also in dialogue with others in the context of professional development.

Conclusion

It is vital that teaching and learning are not neglected in research enquiry, if the needs of a more diverse student body are to be adequately met. Teachers in higher education are also learners. Teachers need to take account of social practice and collaborative learning as opposed to the individual acquiring knowledge. Adults learn in different ways and this needs to be accommodated within the teaching and learning process. If we take a critical perspective to the development of pedagogy in higher education it is important that teachers learn to examine their own professional practice within a community of practice. The implication for this is the need to develop the capacity for teachers to adopt a critical stance to their practice by inhabiting 'knowledge-practice' based communities. In my thesis, I will explain how I am critically examining my practice in order to bring about improvement. The development of my pedagogy occurs through dialogue with participants on the programme. Through these interactions, my educational values can be seen to emerge. These educational values can then become communicable standards of judgement by which I judge my practice.

Chapter Four

Information and Communications Technology in Education

Introduction

In this chapter, I will offer a brief historical background of the developments in computing over the last fifty years that is intended to set the context of my enquiry. I argue that these developments have implications for teaching and learning in higher education. I explore findings of an international study that deals with the current uses of ICT in teaching and learning in higher education and highlight its implications for my enquiry e.g. its conclusion that institutions need a strategic view or policy on the use of ICT. I set out my findings from a quickscan of the literature on good/best practice that relates ICT policy to practice in the contexts of teacher education. The benchmarks that the scan offer supports my argument that ICT can shape new ways of teaching and learning in the context of the professional development of teachers. As Oblinger and Rush say, "*These new tools challenge the education establishment to rethink itself and education as well*" (Oblinger & Rush, 1997, p. 55). It is appropriate that I adopt a critical stance to the appraisal of my own pedagogy and that this should be informed by insights arising from researching into my own practice in the use of ICT to optimize the teaching and learning process.

Developments in Technology

Rapid advances in human computer interaction have contributed new tools and technologies that provide new opportunities for teachers and learners. The purpose of this chapter is to explore relevant developments in Information and Communication

Technology (ICT) and the implications for learning and teaching in the context of professional development of teachers. In Ireland and the UK in recent years there has been a reduction in funding for education whilst at the same time an increase in demand for wider access to students, often termed 'disadvantaged', or from lower socio-economic backgrounds, students with disabilities, and second chance learners. National and international reports on higher education highlight that staff-student ratios are worsening. In this context of fewer teachers and more students there has been a drive by policy makers, organisations and education providers to realise the potential of ICT to enlarge learning opportunities.

Fifty years ago saw the invention of a computer, which modern computing is founded upon with ENIAC (electronic numerical integrator and computer) at the University of Pennsylvania. ENIAC was the world's first electronic digital computer. It had 30 separate units, plus power supply and forced-air cooling, and weighed 30 tons in total. Its 19,000 vacuum tubes, 1,500 relays, and hundreds of thousands of resistors, capacitors, and inductors consumed almost 200 kilowatts of electrical power, took up a large room, cost millions and had the processing capabilities of a modern pocket calculator. But ENIAC was the prototype from which most other modern computers evolved. From ENIAC grew the computer industry, which allows us to be connected and able to receive and transmit text, sound and pictures instantaneously over the globe.

In 1965, Gordon Moore, co-founder of Intel, observed that the number of transistors per square inch on integrated circuits had doubled every year since the integrated circuit was invented. Moore predicted that this trend would continue for the

foreseeable future. Microprocessor performance has been approximately doubling every 18 months. If we look back to how word-processing was done on 8080 processor machines and on the 286 machines, it was very much the same. But with the introduction of the 386 machines, the point-and-click interfaces superseded the keystroke commands. With the Pentium processors, one can use voice to open and close applications.

The 1980s saw the introduction of desktop personal computer (PC) and the1990s saw the arrival of the Internet on existing narrowband telecommunications infrastructure that had been designed for telephones. Telecommunications involves the exchange of information in any form, for example, voice, data, text, images, audio, video, and that information can be transmitted over computer-based networks. The narrow bandwidth however, confined transmissions to asynchronous modes of communication. In other words, outgoing and incoming communication could not take place at the same time. Past technologies such as radio and television did not allow us to interact over distances. However, the telephone was interactive but it only allowed synchronous communication and only carried sound. Narrow bandwidth meant that the dynamic communication that was possible in a traditional classroom proved difficult to emulate online. Traditional classroom communications allowed for rapid spontaneous interaction and face-to-face allowed subtle sensory cues, e.g. gesture, expressions, position and voice to be communicated. The arrival of devices such as PCs that could store, process and reproduce large bodies of data, supplemented the library function in educational establishments and permitted a limited dialogue between machines and their users. Advanced communication systems that enabled each PC and its user to interact in real time with other PCs and

other users through the internet opened wide arenas of educational conversation that could eventually replicate and even extend most forms of classroom communication.

With the developments of the Internet and advances in networking a unique opportunity for interactive education emerged that offered at a distance and to a large number of people. These developments have opened up the possibility of collaboration with experts worldwide. The added value of the internet and its potential to deal with different forms of representation, such as, graphics, audio, video and moving images opens up to other forms of representation beyond text.

As the full potentiality of human computer interaction is developed there is likely to be a further explosion of the use of multimedia and the ability for people to communicate in more dynamic ways. Myers (1996, p. 3) points to the emerging technologies that are a result of research in human-computer interaction. These extend from the mouse pointing device, windows, computer applications such as drawing, text editing and spreadsheets and hypertext, and to the new technologies of the future, such as multimedia and 3D, gesture recognition, natural language and collaborative learning technologies. Myers believes that user interfaces will most likely be one of the main 'value-added competitive advantages' of the future, as both hardware and basic software become commodities. Indeed his prediction is being borne out as one can see that yesterday's advanced system is today's commodity. Further advances in technology such as, high-resolution displays, 3D graphics and animation, handwriting and speech input, and natural language understanding are likely to improve the end-users interface. We are still witnessing the pursuit of a developmental paradigm whose eventual outcomes can only be guessed at.

Bandwidth is integral to the opening up of new technologies for teaching and learning. Broadband allows for greater speed in communications and greater flexibility. The International Society of Ireland report on 'Ireland's Broadband Future' (2003) highlights that current communications by computers/other devices have hitherto been restrained by the lack of bandwidth/broadband for network intensive applications. They point to developments in consumer devices, which require networking for interoperability. This allows the many different end users to use the different types of computer systems, software packages, and databases provided by a variety of interconnected networks.

The report 'Ireland's Broadband Future' (2003, p. 71) traces the waves of development that have taken place: The First wave (1985 - 1995) centered on email. In this case, the internet is connected as a stand-alone application on specific computers. The network is subservient to the computer. The Second wave (1995 - 2005) focused on the Web. In this case, the applications and services are accessible by anyone using the World Wide Web. Organisation, data and application are location specific and the computers become dependent on networks. The Third wave (2005 - 2015) is expected to involve Networked Applications. Here, the technology trends are towards more extensive use of Internet, digital fiber-optic, and wireless technologies catering for high-speed local and global internetworks for voice, data, images, audio, and video communications. This will have huge advantages for education. In this case, the data and applications are uncoupled from specific locations or machines and can be accessed and directed from many locations. The computer is subservient to the

network. Data and application exist in 'cyberspace' this means that they are completely in the network and are not attached to any specific machine or location.

Computing and communications industries have merged with the networking of computers. Wireless access to the Internet is growing. With the agreement on a standard wireless application protocol (WAP) there are many developments of wireless Web applications and services. These developments will raise the wirelesss transmission speeds to allow for streaming video and multimedia applications on mobile devices. This brief overview suggests that telecommunications and network technologies are developing dynamically internetworking and bringing about new ways of doing work in business, education and society.

Developing uses of technology in higher education: A comparative study

In contrast with the evident potentiality and dynamism of the new technology, studies of its impact upon teaching practices in higher education indicate that, as yet, teachers in general are making use of email and web resources but more advanced technologies, such as online learning environments and wireless solutions are only being used to a limited extent. Few in higher education are dealing in a practical manner with the new technology's central ideas about the handling of knowledge.

An international comparative study on Models of Technology and Change in Higher Education was carried out by the Centre for Higher Education Policy Studies and the Faculty of Educational Science and Technology of the University of Twente in the Netherlands (Collis & van der Wende, 2002). The aims of the study was to investigate the scenarios that are emerging with respect to the use of ICT in higher

education and, to see whether future developments can be predicted and strategic choices made on the basis of these scenarios. The study applied an international comparative methodology across seven countries surveyed: Finland, Germany, Norway, the Netherlands, the United Kingdom, Australia and the United States of America (USA). The methodology involved a multi-level and multi-actor approach, and addressed the various actors active at various levels within the higher education institutions. These included decision-makers, instructors, and support staff. A questionnaire was developed to gather the data.

The following four scenarios have been studied in different contexts and have been identified for educational delivery (Collis & Moonen, 2001, p. 199). These scenarios were used within this study. The study recognised that institutions will not choose only one of the scenarios, but that it is useful to identify the scenarios most representative of the educational delivery currently, and in future, in institutions.

The scenarios include:

1. Scenario A: *Back to Basics*. The current scenario for the traditional post-secondary institutions i.e. quality control of a cohesive curriculum experienced in the local setting.
2. Scenario B: *The Global Campus*: This involves quality control of a cohesive local curriculum, available globally.
3. Scenario C: *Stretching the Mould:* This refers to an increase in flexibility without changing the underlying pedagogical model within the institution.

Many universities are moving more towards a form of 'Stretching the Mould' and offering more flexibility for participants.

4. Scenario D: *The New Economy* involves individualisation and globalisation. This is seen to be the way forward. However, there is no evidence of it in traditional universities.

Three main themes with associated conclusions consistently appeared in the results.

1. **Conclusion 1: Change is slow.**

- There is much evidence to suggest that higher education institutions do not anticipate radical changes in teaching practice resulting from, or related to, the use of ICT. Gradual changes have been taking place and universities are 'Stretching the mould'. However the changes are slow moving and are as a result of shifts in thinking within the teaching academy rather than the wholesale adoption of new methodologies from the world of ICT. 'Stretching the mould' refers to increased flexibility without altering the underlying pedagogical model within the institution.

- New teaching configurations, in parallel to the on-campus mode, either in the form of distance learning or of students seeking learning opportunities emanating from other institutions, are likely to occur but will not replace the dominant model. However, institutions that have a clearer view on their mission with regard to special target groups e.g. lifelong learning or international students tend to show higher levels of use of ICT and greater willingness to subscribe to its methodologies.

2. **Conclusion 2: ICT in teaching and learning: Widespread but part of a blend**

- It appears that ICT has become part of a new blend of on-campus delivery systems e.g. use of email, word-processing and the web have become part of the teaching and learning process. The use of e-mail and web resources is now more frequently used in educational practice. However conference systems i.e. online learning environments, or wireless solutions are used to a limited extent. The technologies are being used more for course preparation and out of class activities than for communication and in-classroom activities. The lecture still remains the 'core medium' of instruction and institutions continue to focus chiefly on teaching the traditional student group. Small doses of ICT are injected into the system without bringing about any radical re-think.

3. **Conclusion 3: Instructors: Gradually doing more but with no reward**

- Instructors are making some instrumental use of ICT but not actually changing their ways of teaching even though, in using ICT, they often make significant departures from established teaching norms. The study shows that ICT instructors have significantly lower perceptions than the decision-makers and support staff in their institutions as to the Institutions' commitment to support and provide incentives for ICT use. There are no reward structures in place to ensure that instructors do more than gradually 'stretching the mould'.

Outcome of study

The findings of the study show that the traditional campus-based model still dominates, i.e. the 'Back to Basics' model. 'Stretching the Mould' model is growing in importance, despite the fact that there is no deliberate plan or policy in place. However, the report suggests that 'Stretching the Mould' is the model most likely to grow in higher education institutions and there will be central policies in place to 'Stretch the Mould' scenario.

Web-based systems are seen to bring about more efficient practices but are still not replacing the traditional methods of teaching i.e. lecture. ICT has become part of the blend of on-campus delivery i.e. ICT is being used to complement traditional on-campus settings.

The instructors are stretching the mould with regard to their use of ICT. When instructors know that using ICT will count towards promotion and tenure or are integral part of regular staff assessment then there will be a strong incentive to use ICT for more than complementary support of traditional core practices. Instructors who are the ones closer to the 'front line' in terms of delivery and technology use, are still less positive than other groups surveyed in this study i.e. Decision makers and Support staff.

Institution wide technological structures are now in place. However, rich pedagogical use of the technological infrastructure is still in development. The strategic use of ICT for different target groups still needs to be considered explicitly. Institutions are still focused on school leavers as their target group. However, many institutions lack a

strategic view on using ICT for these new groups of learners and the development of institution-wide ICT strategies is still in development. It is clear that the strategic use of ICT for the diverse range of students in higher education will require explicit policy developments.

If new policies are adopted and new strategies devised, emphasis will then have to be directed toward the appropriate pedagogical use of the technology infrastructure that may become increasingly available. How to secure the richest pedagogical use of that technology infrastructure will move centre stage as one of the most important issues to be addressed. This, and the use of e-learning in general, are matters that are treated in the study by Van Merrienboer *et al.* (2004, p 13). These authors point out that the central concept in handling of e-learning currently tends to center up 'content'. The authors regret that forms of e-learning that emphasise the active engagement of learners in rich learning tasks and the active, social construction of knowledge and acquisition of skills are rare. In other words, the potential of the new technology to transform the teaching/learning environment is still far from being realised in the institutions of higher education.

The report suggests that two paths might be explored. The first path is evolutionary, the other is interventionist. The evolutionary path involves continuing the current preference for pragmatically 'Stretching the Mould' for teaching entry-level students in the traditional university settings, allowing courses to become more flexible. The use of well-designed course management systems should be able to support flexibility within courses. Web technologies will be used as complementary to the core

technologies i.e. textbook and lectures. However the use of web-based systems will stretch the core technologies.

The alternative path is the interventionist path. This will involve major changes in thought patterns and work routines. Reliance on 'Back to Basics' and 'Stretching the Mould' will diminish and there will be movement from 'Stretching the Mould' stance as the starting point towards aspects that can be describe as the New Economy.

Quickscan of good/best practice with respect to integration of ICT

Of more immediate concern to myself, and of relevance to my research, is the handling of ICT educational issues in those institutions that are engaged in teacher education. In 'The State of Affairs of Teacher Education in respect to ICT' Kirschner and Davis (2003) report on a quickscan of good/best practice with respect to the integration of ICT in the context of teacher education. I will discuss their findings as I believe that it has direct relevance to my own work, as many of my students on the MSc in Education and Training Management (ICT) programme are teachers. The report is a synthesis of twenty-six cases of good practice in implementation of ICT that were identified in teacher education across Europe, North America and Australia. The criteria presented in this report are useful for ICT programmes that could prepare teachers in higher education to work in pedagogical rich learning environments.

The methodology used in this study consisted of a quickscan of initiatives in the field of teacher training across the globe. Five experts in the area of Information and Communications Technology (ICT) and teacher education from around the world carried out their research using an asynchronous distributed research group which

made use of a web-based project environment for determining the reference framework, sharing relevant cases and web sites, discussing practices and collecting data. The reference framework developed was based upon Collis & Moonen's (2001) categories for ICT in teacher education.

In their study, they focus on ICT as a core technology. A core technology is defined as the main way of organising the learning experience; the component around which all other components are planned (Kirschner and Davis, 2003, p. 128). The use of ICT as a core technology focuses on 'learning how to use ICT' and 'learning via ICT'. The learning how to use ICT focuses on helping teachers gain competencies with ICT e.g. with specific software packages or the Internet. The learning via ICT refers to ICT use as a core technology for participation, i.e. mainly web environments as the tool used to support flexible learning for teachers.

Based upon this framework, three actions followed. First, the distributed experts made use of their knowledge of the field and their own professional networks to locate examples of good/best practice. Second, the project team developed two instruments for documenting the practices, namely a checklist and an evaluation form. Finally, the experts filled in the forms and supplied additional documentations so that the team in Netherlands could begin on the meta-analysis. This involved translating the results from the different studies into a common metric.

A particularly valuable feature of their analysis is their use of benchmarking to identify and catalyse good practice. The following five benchmarks of good/best practice were identified from the study. The use of ICT for a range of assessment

paradigms and the policy dimension of the use of ICT for teaching and learning were not always present in ICT programmes for teacher education. This is interesting and indicates that teacher-training institutions share some of the shortcomings, or limitations in their use of ICT as reported in the studies of higher education institutions previously referred to. In addition to providing a means of assessing the current state of thinking about ICT and teaching/learning processes in higher education, they provide a more widely applicable measuring stick for analysing the impact of ICT on teaching practices more generally and, on a yet wider context, offer insights into differing approaches to the handling of the whole teaching/learning process.

Benchmark 1 - Personal ICT competencies

Programmes for teacher training should enable aspiring and practicing teachers to become competent personal users of ICT. At a minimum, they should promote competencies in the use of applications such as word processing, databases, and spreadsheets.

Beyond this, a programme for teacher training should develop the learners' ability to use ICT effectively for:

- communication between and within student groups.
- communication between and with other teachers.
- continuing their own education once they have completed their studies including self-assessment of own learning and learning needs.

Benchmark 2 - ICT as a mindtool

Programmes for teacher training should train aspiring teachers to be able to make use of ICT as mindtools. Mindtools are computer programs and applications that facilitate meaningful professional thinking and working. 'Mindtools' can be in the form of email or discussion lists and also involve argument mapping and visualization systems. Mindtools help users represent what they know as they transform information into knowledge; they are used to engage in and facilitate critical thinking and higher-order learning (Kirschner & Davis, 2004). As a minimum, teachers should develop basic competencies to use mindtools for:

- cooperation (between teachers, teacher educators and student teachers);
- collaboration on pedagogical projects (with other teachers, experts and designers, etc.).

Benchmark 3 - Educational/Pedagogical use of ICT

Programs for teacher training should train aspiring teachers to be able to make use of ICT within many different educational/pedagogical settings. Not in adApting (*sic*) their education to ICT, but in adOpting (*sic*) ICT into their education. As a minimum, teachers should develop basic competencies to use ICT effectively for:

- collaboration/cooperation in both synchronous and asynchronous environments.
- resource based learning (informing, asking questions, evaluating, comparing).

There is a need for teacher training organisations to deal with the pedagogical uses of ICT at classroom level for comparing and selecting resources such as:

- learning environments.
- project environments.
- collaborative environments.
- learning management systems.
- software.

It is also important that teacher-training programmes should familiarize and prepare aspiring teachers and teacher educators to appreciate the effects of ICT on:

- their own role as teacher;
- their students' ability to increase autonomy, authentic activity, learning styles, situated learning and motivation, enfranchising those who are out of the mainstream.

Benchmark 4 - ICT as a tool for teaching

The use of ICT as a tool for the tool's sake should be avoided. Aspiring teachers should not only grasp the theories governing the 'why and how' of using ICT, but will also develop competencies in:

- adapting technologies to good/better teaching such that the teaching/learning can change for the better.
- planning for relevant individual, group and whole-class activities.
- preparing and producing learning materials with the help of ICT.
- dealing with the possibilities/consequences of using ICT.
- teaching and learning specialist subject(s) with ICT.
- team teaching in situ or at a distance.

Benchmark 5 - Social aspects of ICT use in education

The authors assert that norms and values have been traditionally handed down from adult to children. There is a recognition that this is changing and children are also engaged at the cutting edge of societal change. It is important that teachers and teacher educators:

- engage as members of a (wired) school community.
- provide a role model of good ICT practice.
- learn to share and build knowledge.
- understand the implications of the Information Age on schools and schooling.
- realise and discuss the impact of ICT on society.

Additional Benchmarks - ICT in assessment and policy

The authors state that the use ICT for assessment and understanding the policy dimension of ICT use are not widely perceived as being a necessary feature of good practice at this time.

Summary of Benchmarks

These benchmarks offer a hierarchy that enables one to perceive at what point practitioners may begin engaging in and enabling critical thinking and higher-order learning through use of technology, using technology to collaborate on project work with teachers and other experts thus emphasising learning in interaction with others, building and sharing knowledge through technology, using technology in a meaningful way, being aware of the wider social implications of technology use. The importance of reflexivity is highlighted in the report.

This study offers a valuable analysis of the current state of play in the application of ICT in teacher training institutions. It is important to relate to the wider benchmarks being developed for ICT in teacher education. In my Doctoral research, I show how I am accounting for my own educational practice and developing standards of judgement from the ground of educational practice. I also show how I support teachers to carry out research into their practice by asking, researching and answering the question; 'how do I improve my practice?' The importance of the teachers and teacher educators researching is highlighted by Kirschner and Davis (2002, p. 141) "*reflexivity is essential and must be nurtured*"

Conclusion

ICT is developing at a rapid rate and one of the characteristics of ICT is its dynamism. This is reflected in Moore's law which states that microprocessor performance would double every 18 months. It is difficult to set limits to what ICT can achieve as it is a constantly shifting frontier. ICT has the potential to change the shape of the classroom; change the relationship between teacher and learner; offer new tools to support new ways of teaching and learning; open up access to knowledge across distances through developments in bandwidth. Oblinger and Rush (1997, p. 51) assert that technology allows a greater participatory and collaborative society. However, within higher education, the idea of active engagement of learners in rich learning tasks and the active, social construction of knowledge and acquisition of skills are still rare. I argue that there is a need to develop rich pedagogical uses of ICT that involves social, collaborative construction of knowledge. ICT offers more flexible and wider access to learning than was ever possible before. Higher education has been slow to break with the traditional 'mould'. Notwithstanding the good points relating to the

lecture mode, it is clear that higher education institutes need to develop policy with respect to how ICT can be used to improve teaching and learning and to widen access to learning in a lifelong learning framework. In my thesis, I show how teachers are developing the skills and creating their own multimedia and web based artefacts in order to improve student learning. I believe that through the process of developing ICT artefacts and supporting texts, teachers can get closer to the meaning of their embodied values. These values can become living standards of judgement by which teachers can judge their practice-based research. I now turn to the methodological approach I developed in my enquiry.

Chapter Five

Methodological Approach

Introduction

In this chapter, I will set out the action research methodology that I intend to use in my self-study as well as exploring other forms of research. I will discuss the concepts of ontology and epistemology and their relevance to our understanding of research. I use a 'living educational theory' approach to action research as it allows me to provide explanations for my own learning, my influence in the learning of others and my influence in the education of social formations.

'Normative' and 'interpretive' are terms used to describe two perspectives on the nature of the world or reality. Whichever view we take will affect how we go about uncovering knowledge and social behaviour. These two perspectives relate to one's assumptions in four areas: ontological, epistemological, socio-cultural and methodological. In any discussion about research, it is important to explain one's assumptions. I will explore these four sets of assumptions. Ontology refers to whether reality is objective and external to human beings or whether it is created by one's own consciousness. Epistemology is concerned with knowledge and how it can be acquired. The question here relates to whether we see knowledge as a hard body of objective reality or as a subjective experience of reality. Whichever view we take will affect how we go about uncovering knowledge. The socio-cultural assumption concerns the relationship between humans and the natural environment. This refers to whether or not the human being is essentially active or passive. Do we respond to

external events or stimuli or are we active initiators of our own actions? Whichever perspective we adopt will affect the methodological approach that we choose in research. Usher believes that most researchers hold these commitments tacitly. "*What we can conclude from this is that methods are embedded in commitments to a particular version of the world (an ontology) and ways of knowing that world (an epistemology)*" (Usher, 1996, p. 13). Thus epistemological and ontological questions are related since claims about what exists in the world imply claims about how what exists may be known. Positivist tend to view that universal laws govern social behaviour and to treat knowledge as objective. If we adopt a positivist stance in pursuing educational research we will tend to see the social world as analogous to the natural world and susceptible to the formation of universal laws. Competing views are more skeptical of generalisations and more alive to the play of human creativity whose consequences may be difficult to predict.

For many years epistemology took the position that any claim to know must be justified on the basis of how the claim was arrived at. In many research fields, the 'good grounds' for judging the validity of knowledge claims was that the researcher was 'objective', i.e. the researcher took an observer role, using the methods of natural science or scientific methods. The researcher did not enter the equation. Research conducted along these lines entails an epistemology heavily laden with positivist and empiricist notions. Scientific method, so constructed, could be seen as the way to guarantee "*true and certain knowledge*" (Usher, 1996, p. 26). If we take the position that the knower exists apart from the knowledge, which is, "*a free-standing unit with an existence of its own*" (McNiff & Whitehead, 2002, pp. 17-18). In this view, we are led to adopt a particular form of epistemology and the assumptions that go with it.

Usher points out that positivist/empiricist epistemology is based upon a set of beliefs. These include the expectation that there is a certain truth that can be known, that there must be no contradictory explanations, that there must be convergence on a single explanation; that research leads to generalisations which in turn enable predictions to be made and events to be controlled. Usher is convinced that a positivist approach can be seen as unreflexive, since its main focus is on methods and outcomes, and there is no question or discussion about the research process itself. Usher (1996, p. 14) warns of the danger of taking a natural science view of social or educational science. He sees that the ontological assumptions underpinning this view are of the world as "*orderly, lawful and hence predictable, are highly problematic*".

Interpretive research

One may set against the positivist approaches to research discussed above, another research tradition, that of interpretive research which traverses fields such as phenomenology, ethnography, and hermeneutics. The assumption underpinning the epistemology proper to this school of research is that all human action is meaningful and has to be interpreted and understood within the context of social practices (Usher, 1996, p. 18).

In order to make sense of the social world, the researcher needs to understand the meanings that form and are formed by interactive social behaviour. Human action is given meaning by interpretive frameworks. Within an interpretive framework, the researcher tries to make sense of what s/he is researching. This process is known as 'double hermeneutic' in that in the conduct of social research, both the subject (the

researcher) and the object (other people in the study) of the research bear the same characteristic of being interpreters or sense seeking.

Critical theory school

Advocates of the Critical theory school believe that positivist and hermeneutic schools did not address the historical, cultural and social situatedness of researchers. The aim of Critical theory is to make people aware of their historical, cultural and social conditioning and discover how to recreate their personal and social realities (McNiff & Whitelead, 2002, p. 33).

Habermas is the main proponent of the critical theory approach. He points to the importance of the following four validity claims that are implicit in any communicative transaction and that the speaker must be able to defend.

The speaker claims to be:

- *Uttering* something understandably;
- Giving [the hearer] *something* to understand;
- Making *himself* thereby understandable; and
- Coming to an understanding *with another person.*

(Habermas, 1976, p. 2).

Habermas' claims pertain to the 'ideal speech situations'. For Habermas, (1976) truth is the outcome of *rational agreement reached through critical discussion.*

McNiff & Whitehead (2002, p. 34) points to the power of critical theory for social renewal. However, warn that while critical theorists point to what is required to redress wrongs, they do not show how their theories can be realised in practice. Gergen and Gergen (1991, p. 78) believes that, "*knowledge is part of the coordinated activities of individuals, which are used to accomplish locally-agreed-upon purposes concerning the real and the good*". The focus is on inter-dependence and not independence. Steier (1991, p. 180) points out that when the observer is situated within his or her research enquiry, we have the makings of a reflexive methodology for research. He refers to the term 'ecology' in the Bateson sense of a 'context' that includes "*the idea of a researcher (co-)constructing (with reciprocators) a world*" (*ibid*). Thus there is now an active and lively body of researchers who are convinced that research enquiry in the human sciences can and should take account of the potentiality for creative action of all relevant participants, including the researcher, and relate to broader social environments.

My Research perspective

I believe that ontology and epistemology are inextricably linked in self-study research. Research can be seen not as abstract but as involving interactions with others. As a higher education educator, I believe that my learners and I co-construct knowledge together, and this is a knowledge creation process. In exploring the different views of reality, I take the view that reality is constructed in collaboration with my students and that I construct meanings in relation to others. This has implications for the methodology of my research as I do not see knowledge as a fixed quantum but as an ongoing activity. In other words, social reality is constructed through interaction with others and so the observer's exchanges with the observed,

and the wider outcomes of these exchanges through these connections, represent a vital element in this form of research. In exploring how I am improving my practice I take an educational action research approach. I relate to Bertrand's claim that knowledge comes first out of uncertainty or a question: "*Knowledge is the opposite of the demonstration of a rule and it has nothing to do with the bureaucratisation of ideas. It is an awareness, a sensitivity to life, to things that cannot be known, to uncertainty*" (Bertrand, 1998, p. 117). He believes that we have to rely on our imagination, or we risk believing that textbook, and the media, such as TV and movies show us real life. My view of educational research is that it is about improving education and at the same time contributing to knowledge. Rather than focusing on the notion of a generalisable theory, I work with the idea of theory as situated in practice, explaining and energising human exchanges in transforming social contexts.

Bassey's (1995) idea of a study of singularity is relevant in this context: "*A singularity is a set of anecdotes about particular events occurring within a stated boundary, which are subjected to systematic and critical search for some truth. This truth, while pertaining to the inside of the boundary, may stimulate thinking about similar situations elsewhere*" (Bassey, 1995, p. 111).

Bassey believes that this boundary can be defined in space and time. It could refer to a particular classroom, or school, or local education authority, or as sets of these, that takes place in a particular period. It may also be defined as a particular person, or group of people, at a particular time and in a particular space.

Action Research Models

Action research is form of practitioner research where there is a professional intent to intervene to improve practice in line with values that are rational and just, and specific to the situation. Action research tends to have the following characteristics: it is cyclical; it requires separate and yet mutually dependent steps; it is participative as the researcher and researched are active participants in the research process; the data is generally of a qualitative nature; it is a reflective process. As change is intended to result, action research depends on the agreement and commitment of those who are affected by the research. Although the processes of carrying out action research may vary, there is a common emphasis on critical and democratic social theory, and a departure from unengaged research as the appropriate enquiry path for practitioners in practical situations.

There are different action research models and each one has its own unique way of working through the action research process. In the literature, I identified the following contributions to action research.

- Kurt Lewin's model of action research
- John Elliott of East Anglia University, UK
- Wilfred Carr and Stephen Kemmis of the Deakin School of Action Research, Australia
- Ernie Stringer, Community based Action Research
- Ortrun Zuber-Skerritt, University of Queensland
- Jack Whitehead at University of Bath, UK

Kurt Lewin (1952) is credited as being the first to coin the term 'action research'. Lewin's original formulation of the idea of action research was based on the belief that it is in trying to change social situations that we best come to understand them. Lewin's approach consists of the following steps: plan, act, observe and reflect (Fig. 5.1)

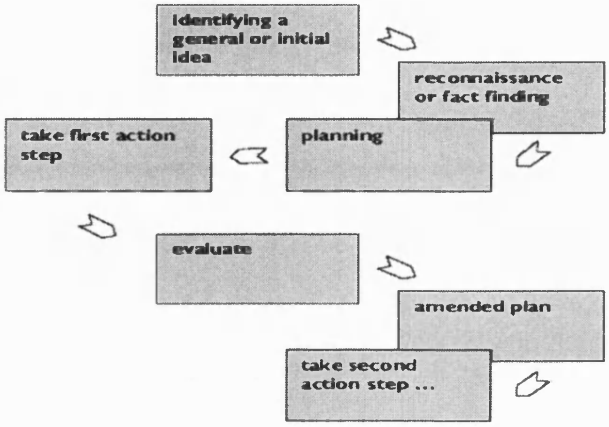

Fig. 5.1

Source: http://www.infed.org/thinkers/et-lewin.htm (accessed on 10th February, 2005)

Lewin's models of action research (Fig. 5.1) involves identifying a general idea, fact finding or reconnaissance, general planning of action, developing first action plan, implementing the first action step, evaluation, revising the general plan. Then the second action step developed and continues through the stages again.

John Elliott points out that in using Lewin's model, one might assume that the 'general idea' can be fixed in advance, that 'reconnaissance' is merely fact-finding, and that 'implementation' is a fairly straightforward process. Elliot argues that the general idea should be allowed to change, that reconnaissance should include analysis as well as fact finding and should occur throughout the action research process and not only at the beginning. Elliott says that implementation is not a simple task and one

should monitor the effects of action before evaluation takes place (Elliott, 1991, p. 70). Elliott extends the spiral activities as shown in Fig. 5.2.

Elliott makes the point that definitions of action research can put a tight boundary on the full meaning of action research. He believes that the drawing of such a tight boundary is often based on the assumption that the practical knowledge which stems from action research is non-theoretical because its value is entirely instrumental to the task of improving practice as a means to an end. Such an assumption implies that the pursuit of practical knowledge through action research is for the sake of practical goals that can be defined independently and in advance of the action research process, whereas research aimed at the construction of theory is the pursuit of knowledge for its own sake (Elliott, 2004, p. 1).

In defining action research as:

The fundamental aim of action research is to improve practice rather than to produce knowledge. The production and utilisation of knowledge is subordinate to, and conditioned by, this fundamental aim.

(Elliott, 1991, p. 49)

Elliott claims that he was attempting to highlight the importance of the practical standpoint as a context for knowledge generation. However, he now sees that this definition could be viewed as a way of prioritising practice over theory. He challenges us to review our idea of 'theory' as exclusively referring to generalisable representation of events. Some would claim that theory must be held separate from the agents who wish to affect changes in practical situations. Elliott claims that small-scale studies can not only improve practical situations, but can also lead to the

generation of theory. In effect, Elliott's work encourages the notion that teachers can be enabled to create their theory of practice through critical reflection on their practice. Figure 5.2 shows an early model of Elliott.

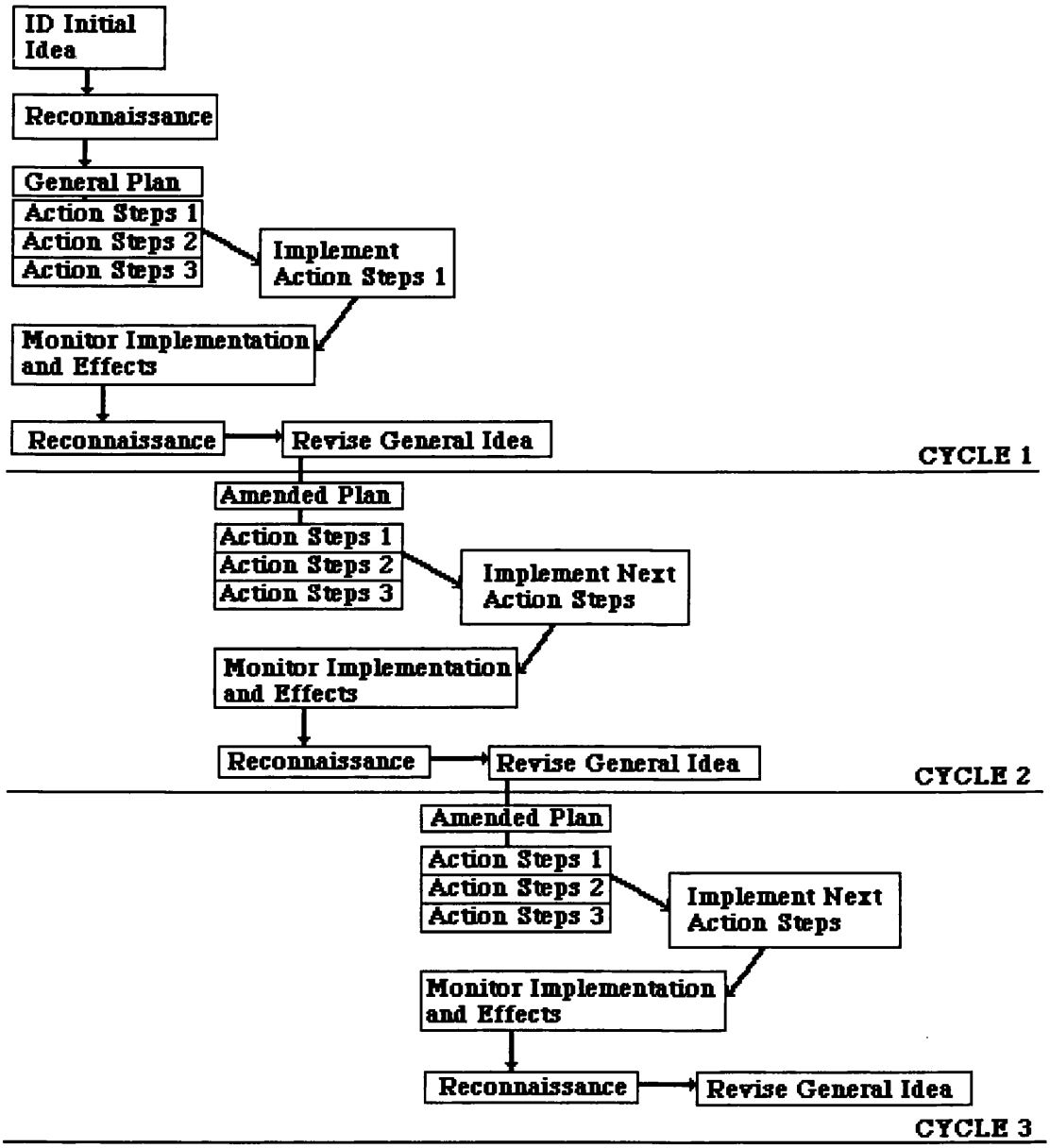

Figure 5.2

Source: Elliott, J. (1991)

Carr and Kemmis' emphasis this characteristic in their definition of action research:

> *"a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out".*
>
> (Carr and Kemmis, 1986, p. 162)

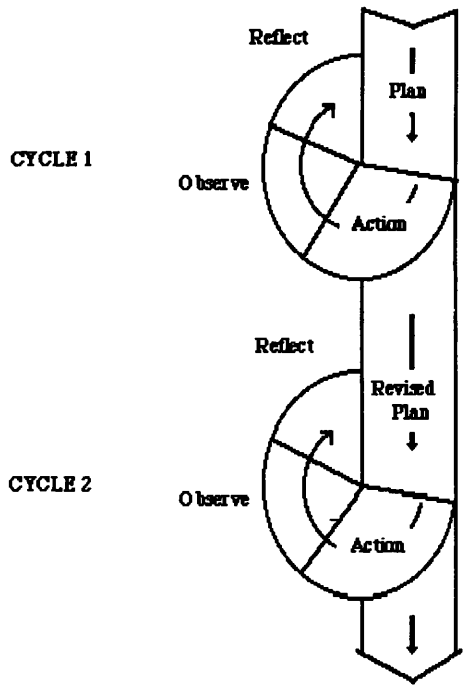

Fig. 5.3

Source: Kemmis and McTaggart (1988)

In an early model of Kemmis (Fig. 5.3), shows how reflection leads on to the next stage of planning. The planning stage is not separate from the previous stage but is embedded in action and reflection. The short and multiple cycles

are to ensure rigour. As it is intended that the end result is change, effective action research depends upon the agreement and commitment of those affected by it. This is achieved by involving them directly in the research process.

Action research is also used within community-based work. Stringer's view on community-based action research is that one is working through an explicit set of social values that - in today's democratic social contexts - involves a process of inquiry that has the following characteristics:

- it is democratic, enabling the participation of all people.
- it is equitable, acknowledging people's equality of worth.
- it is liberating, providing freedom from oppressive, debilitating conditions.
- it is life enhancing, enabling the expression of people's full human potential.

(Stringer, 1999, pp.9-10)

Stringer uses the following action research process in his early model of action research.

Look: Building a picture and gathering information.

Think: Interpreting and explaining.

Act: resolving issues and problems.

Stringer (1999, pp. 43-44)

Zubber-Skerritt suggests that action research offers an approach to advancing knowledge and a way of improving learning and teaching in higher education. An early model provides the following five reasons for use of action research in higher

education which are summarised in the acronym CRASP*: Action research promotes a Critical attitude, Research into teaching, Accountability, Self-evaluation and Professionalism* (Zubber-Skerritt,1992, p.15).

Jack Whitehead's living educational theory approach

For the past 30 years, Jack Whitehead has been committed to an action research approach which he calls 'living educational theory'. Whitehead sees education as a value-laden activity and refers to values as those qualities, which give meaning and purpose to our personal and professional lives. He suggests that in asking questions of the kind, 'how do I improve what I am doing?' (Whitehead, 1989, 2005), practitioners can create their own theory by embodying their educational values in their practice. He does not see educational theory as constituted by the disciplines of philosophy, psychology, sociology and history of education. Whitehead sees the purpose of educational research as essentially concerned with the creation and testing of educational theories: "*Because I see educational theory as an account of the educational influence of individuals and social formations that include learning to live values more fully, I attach great importance to those values that appear to carry hope for the future of humanity*" (Whitehead, 2004, p. 2).

In the development of a living educational theory approach Whitehead (2004, p. 2) offers the following five ideas.

i). That one should include 'I' as a living contradiction in educational enquiries of the kind, 'How do I improve my practice?'

ii). That one should develop systematic forms of action enquiry including 'I' as a living contradiction.

iii). That one should seek to create and test living educational theories as explanations for learning in educational enquiries of the kind, 'How do I improve my practice?'

iv). That one should devise a process for clarifying the meanings of embodied values in the course of their emergence in practice and for transforming embodied values into living and communicable standards of educational judgement.

v). That one should identify ways of influencing the education of social formations through the creation and testing of living educational theories in a range of cultural and social contexts using multi-media representations.

Whitehead draws on the idea of social formations as defined by the social theorist, Bourdieu (1990) who analysed the idea of the power of the habitus in analyzing social formations.

> "*...social science makes greatest use of the language of rules precisely in the cases where it is most totally inadequate, that is, in analyzing social formations in which, because of the constancy of the objective conditions over time, rules have a particularly small part to play in the determination of practices which is largely entrusted to the automatisms of the habitus*".
>
> (Bourdieu, 1990, p. 145).

Both Whitehead and McNiff (2005, pp. 2-3) see an educational theory as having to explain our educational influence in our own learning, in the learning of others or in

the education of a social formations. In seeing the existence of living contradiction in exploring questions, such as 'How do I improve what I am doing?' They cannot explain it under a propositional theory that eliminates contradictions from the explanation, "*...propositional theory abide by the Aristotelean Law of Contradiction that eliminates from theory the possibility that two mutual exclusive statements can be true simultaneouly*". Popper (1963) rejected dialectical claims to knowledge as, "*without the slightest foundation. Indeed, they are based on nothing better than a loose and wooly way of speaking*" (Popper, 1963, p. 316). In developing a dialectical view of scientific enquiry in educational research, Whitehead recognises that 'I' exists as a living contradiction. Whitehead uses the logic of dialectics in asking questions, expressing concerns, imagining a way forward, acting and gathering data, evaluating action in relation to values. In this way one can clarify the meaning of embodied values in the course of their emergence in educational practice.

In order to move from Propositonal and Dialectical logic to Inclusional logic Whitehead draws on the following idea from Rayner (2002):

> *"Inclusional modes of communication that enable source and receiver literally to correspond with one another, to engage reciprocally in a truly co-creative mutually transformative dialogue....Learning becomes a process of recreative self-discovery, facilitated by educators whose role is to provide guidance and an awareness of knowledge rather than to instill more of the same".*

Whitehead believes that a living logic of inclusionality can hold together both propositional and dialectical logics.

According to Whitehead (2004) propositional and dialectical logics can communicate meanings through text. Text may not be sufficient but the meanings of living standards of judgement may require more multimedia forms of representation. Thus, the advances in digital technology which can represent audio and visual representations can be used to demonstrate living standards of judgement.

Whitehead suggests that action research involves a self-study because the practitioner-researcher is studying his or her own practice. He does not believe that self-study necessarily involves action research. One can study the self without focusing on improving one's practice. The emphasis in this enquiry is self-study within an action research approach. There is a growing interest in Self-Study of teaching practice among teacher education. This interest led to the setting up of the Self-Study of Teacher Education Practices, Special Interest Group (S-STEP) of the American Educational Research Association (AERA) in 1992. Zeichner (1998) describes the movement as the most important innovation in research on teacher education. International interest in the area of self-study has grown over the past decade (Russell & Munby, 1992; Whitehead, 1989, 2000; Loughran, 1996; Hamilton & Pinnegar, 1998; Korthagen & Kessels, 2001). The importance of the Self-Study movement in teacher education is that it is contributing to the development of a new epistemology for the scholarship of teaching and learning (Schön, 1995, p. 31; Whitehead, 2004, p. 7). The influence of the Self-Study movement in teacher education is evident from the recent publication of the International Handbook of Self-Study of Teaching Practice

(Loughran, Hamilton, LaBoskey, Russell, T. L., 2004). The handbook provides clear evidence of how Self-Study is influencing teacher education in the Academy and other social formations.

The question of validity and rigour

Usher's (1994) reservations about what is often described as 'scientific methods' are echoed by Sparkes who is likewise concerned about the excessive claims made by adherents of the traditional view of scientific research with its commitment to rationality, objectivity, and a range of dualisms that include subject/other. He advocates acknowledgement of other forms of research and warns that; "*Any kind of research can be dismissed, trashed, and trivialized if inappropriate criteria are imposed on it*" (Sparkes, 2002, p. 199). He claims that participatory action research suggests that validity, in the context of this form of inquiry, needs to be re-conceptualised in terms of the efficacy of the research in relation to changing relevant social practices. Sparkes makes reference to the work of Schwandt who proposes that social inquiry be redefined through the application of practical philosophy, which involves challenging the ideology of 'epistemic criteria', that focuses on fixed and predetermined rules.

In this way, he envisages a new moral and political framework would be invoked wherein values and concerns could be addressed through open dialogue, critical reflection, and a willingness to change (Schwandt, 1996, cited in Sparkes, 2002, p. 220). These views can be traced back to Smith (1989, 1993, cited in Sparkes, 2002, p. 221) who believes that judgement in qualitative inquiry takes place through debate, discussion, and the use of exemplars. In the context of changing or improving social

practice, in education in particular, it emerges that teachers' values and concerns need to be addressed and that this can be done through involving teachers in critical reflective dialogue and developing a more open attitude to practice.

Bullough and Pinnegar (2001, pp. 16-20) offer fourteen guidelines for quality in self-study.

1. Autobiographical studies should ring true and enable connection.
2. Self-studies should promote insight and interpretation.
3. Autobiographical self-study research must engage history forthrightly and the author must take an honest stand.
4. Biographical and autobiographical self-studies in teacher education are about the problems and issues that make someone an educator.
5. Authentic voice is a necessary but not sufficient condition for the scholarly standing of a biographical self-study.
6. The autobiographical self-study researcher has an ineluctable obligation to seek to improve the learning situation not only for the self but also for the other.
7. Powerful autobiographical self-studies portray character development and include dramatic action: Something genuine is at stake in the story.
8. Quality autobiographical self-studies attend carefully to persons in context or setting.
9. Quality autobiographical self-studies offer fresh perspectives on established truths.

10. Self-studies that rely on correspondence should provide the reader with an inside look at participants' thinking and feeling.
11. To be scholarship, edited conversation or correspondence must not only have coherence and structure, but also that coherence and structure should provide argumentation and convincing evidence.
12. Self-studies that rely on correspondence bring with them the necessity to select, frame, arrange, and footnote the correspondence in ways that demonstrate wholeness.
13. Interpretations made of self-study data should not only reveal but also interrogate the relationships, contradictions, and limits of the views presented.
14. Effective correspondence self-studies contain complication or tension.

These guidelines demonstrate quality in self-study research, however a self-study must also answer the question of what makes it valid. Feldman defines validity as the "*degree to which a study accurately reflects or assesses the specific topic that the research is attempting*" (Feldman, 2003, p. 26). In self-study we need to show that our self-study as teacher educators is making a difference and bringing about improvement in practice. This then raises the questions of how we know that we have changed our ways of being and how we convince others not only that the change has occurred but also that it has value (Feldman, 2003, p. 27). Qualitative research has few measurements and researchers have developed other criteria to judge the validity of qualitative research.

Feldman (2003) suggests that the following ways to increase the validity of self-studies:

i). Provide a clear and detailed description of how we collect data and make explicit what counts as data in our work i.e. provide the details of the research methods used.

ii). Provide clear and detailed descriptions of how we constructed the representation for our data.

iii). Extend triangulation beyond multiple sources of data to include explorations of multiple ways to represent the same self-study.

iv). Provide evidence of the value of the changes in our ways of being teacher - educators.

In 1995, Schön advocated the need for a new epistemology of practice (Schön, 1995) and suggested that this new scholarship would take the form of action research. However, Schön pointed out two impediments to legitimizing the kinds of action research associated with the new scholarship in the Academy. Firstly, the power of disciplinary in-groups that have grown up in the academy around the dominant epistemology. Secondly, the inability of scholars to make their practice into appropriately rigorous research (Schon, 1995, p. 34). In framing my own research design, I have taken these warnings to heart. I took account of Winter's (1989) six criteria of rigour; dialectical critique, reflexive critique, collaborative resource, risk, plural structure, theory, practice transformation. As for methods establishing social validity, I included the application of Habermas' (1976) four criteria of comprehensibility, truth, rightness and authenticity. I will discuss each of these methods below. Whitehead points to validity as vital in all research which is concerned with the generation and testing of theory. He points out that researchers

need to know what to use as a unit of appraisal and the standards of judgement in order to test a claim to educational knowledge (Whitehead, 1989). In addition, in submitting accounts of my own educational practice and opening my practice to evaluation by peers, I provide evidence to show how the meanings of my embodied ontological values, can become living standards of judgement in evaluating the validity of my knowledge-claims. These living critical standards of judgement include'pedagogy of the unique', and a 'web of betweenness.

Methods of action research: living educational theory approach

I will use a 'living educational theory' approach to demonstrate how embodied values can be transformed into living standards of judgement. Accounts of learning within a 'living educational theory' methodology involve expressing concerns when educational values are not lived in practice, imagining a way forward, gathering data, evaluating practice on effectiveness of actions, modifying plans in light of the evaluation, and submitting accounts of learning to a validation group in order to strengthen the validity of the account of practitioner learning.

Whitehead (1989) has formulated the following action reflections cycle for presenting claims to know one's educational development as one investigates questions of the type; 'How do I improve the process of education here?'

- I experience problems when my educational values are negated in my practice.
- I imagine ways of overcoming my problems.
- I act on a chosen solution.
- I evaluate the outcomes of my actions.

- I modify my problems, ideas and actions in the light of my evaluations...(and the cycle continues).

Whitehead has further refined the above planner into the following action plan (McNiff & Whitehead, 2002, p. 72):

- What is my concern?
- Why am I concerned?
- What do I think I can do about it?
- What will I do about it?
- How will I gather evidence to show that I am influencing the situation?
- How will I ensure that any judgements I make are reasonably fair and accurate?
- What will I do then?

Methods of rigour in living educational theory

I have developed my own educational living standards of judgements that act as criteria of my practice-based research. I also relate to Winter's (1989, pp. 38-66) criteria of rigour. His criteria are specifically related to an action research enquiry. In appraising his criteria, I reflected on the value that they might have for me as I develop my own living educational theory and support participants in developing theory from practice.

1. Dialectics:

Dialectics starts with a notion of contradiction. Through researching into my own practice as higher education educator, I have come to realise that there is a

contradiction in terms of my educational values and practice. I came to find a way of accommodating new ideas into my practice that has contributed to my professional knowledge. In this thesis, I make explicit the contradictions in my own practice and show how I have worked through dialogue with others in order to improve practice.

2. Reflexivity:

Reflexivity relates to judgements made from one's own personal experiences. By being reflexive and recognising that I am part of the research data and through exploring my own practice with the intention of improving, I show how I am part of the research.

3. Collaborative Resource:

The participants in an action research project are seen as co-researchers. In my thesis, different voices emerge: my own voice, the voice of teachers on professional development programmes, the voice of my supervisor, and the various voices that emerge from the literature.

4. Risk

Risk is an essential element of any change process. Through my research, I bring a new form of knowledge into the academy through my supervision of living educational theory Master's degree dissertations. In doing this, I have had to engage with other points of view with respect to what constitutes valid research. In attempting to contribute to the legitimisation of 'living educational theory' research within the academy, there have been risks and challenges to established cultures. By communicating my work, I have attempted to overcome these risks and challenges.

5. Plurality:

A plural form of research requires a plural form for reporting. The thesis will include a multiplicity of viewpoints which will be represented using different forms of multimedia representation; email correspondences, online learning dialogues, video clips, audio clips, and electronic portfolio work in the form of a website.

6. Theory, Practice and Transformation:

This means that theory and practice are not seen as two separate entities but are intertwined. Theory informs practice and practice, in turn, informs theory. In undertaking to carry out research into my own educational practice, I show how I am contributing to a knowledge base of practice, which, in turn, can inform theory. I have attempted to overcome the usual division between theory and practice by being involved in the research process and by making my practice explicit so as to make an original and unique contribution to knowledge.

Methods of validity: Habermas social validation

McNiff describes validation as "*a system that should be part of the ongoing, formative processes of action research. This is part of critical, self-reflective process. It operates when action researchers discuss their work informally with colleagues, critical friends and tutors*" (McNiff & Whitehead., 2002, p. 29). The methods I use to enhance validity of my research include Habermas' idea of social validity. Habermas (1976) states that when language is used for reaching an understanding with another the following 'musts' constitute the validity basis of such communicating action:

> *"The speaker must choose a comprehensible expression so that speaker and hearer can understand one another. The speaker must have the intention of communicating a true proposition (or a prepositional content, the existential presuppositions of which are satisfied) so that the hearer can share the knowledge of speaker. The speaker must want to express his intentions truthfully so that the hearer can believe the utterance of the speaker (can trust him). Finally, the speaker must choose an utterance that is right so that the hearer can accept the utterance and speaker and hearer can agree with one another in the utterance with respect to a recognized normative background. Moreover, communicative action can continue undisturbed only as long as participants suppose that the validity claims they reciprocally raise are justified".*
>
> (Habermas, 1976, pp. 2-3).

In creating and testing my own living educational theory, I address the above criteria. In addition, in the context of my supervision of Masters degree researchers, I have organised validation group meetings in order to provide the opportunity for each participant to present his/her work to others in the group with the purpose of developing the capacity of each individual to produce an account of his/her learning and submit it to a validation group in order to strengthen the validity of the accounts and to benefit from the ideas of others on ways to move learning forward.

I have adopted Habermas' four criteria in the form of questions. Criterion 4 has been adapted to include a question on evidence of the teacher's influence on the learning of others.

1. Is the descriptions and explanations of the practitioner-researchers' learning comprehensible?
2. Is there sufficient evidence to justify the claims being made?
3. Are the values that constitute the enquiry as 'educational' clearly revealed and justified?

4. Is there evidence of the practitioner-researchers' educational influence on the learning of others?

By relating to Winter's criteria of rigour and Habermas' criteria of validity in the context of validation group meetings, I will endeavour to ensure that my practice-based research is both rigorous and valid. In addition, in the course of my practice-based research, I develop my own living standards of judgement. I also support participants to develop their own living educational theory by asking, researching and answering the question, 'how can I improve my practice?'

Data collection techniques

New developments in ICT allow the researcher the opportunity to collect data using different media. Through this Doctoral research, I have collected data using various technologies: email correspondences, online learning dialogues, audio, video and videoconferencing recordings of live conversations.

Below, I provide a brief outline of the use I made of these different forms of technology.

Video data

I used video recordings of classroom sessions, validation meetings, and participants presenting their work. In order to make claims about my educational influence on participants, I refer to video clips. Video can show the embodied meanings that people bring to their work, and helps us to move beyond pictures of reality to real visual pictures of reality (McNiff *et al.*, 2003, p. 127). In my experience, visual

images can convey more meaning than a thousand words. Video does even more as it gives us the unfolding context and provides the lived reality of practice.

Online learning dialogues

Live dialogue through use of online learning technology provided another source of data. In this context, I use asynchronous communication between participants and myself and participants and each other. These dialogues show the collaborative and open approach promoted of the programme.

Multimedia and web based artefacts

I refer to the multimedia and web based artefacts and supporting texts that were submitted by participants in fulfilment of their Masters Degree module project work. These artefacts embody participants' own educational values and the supporting text provides evidence of how they are critically reflecting on their practice in order to bring about improvement.

Reflective journals

Email correspondence is used to show my own reflective learning through critical incidents as I dialogue with my supervisor, Jack Whitehead. I also use my own reflective journals as I document my own learning throughout my research.

Videoconferencing

During this research, I have used videoconferencing technology to communicate with Jack Whitehead at the University of Bath. Through videoconferencing technology, participants were able to discuss their research with Jack who was able to respond in

real time. This enabled them to share their research work with an international expert in the field of action research.

Ethics of the research

This research process has been a collaborative enquiry, involving me, as higher education educator and participants on the M.Sc. in Computer Applications for Education and M.Sc. in Education and Training Management (ICT). The nature of the enquiry involved a relationship of trust between participants and myself.

I outlined the purpose and aims of the research to participants and invited them to participate in an action research enquiry into each of our practice contexts. The process of the enquiry involved each of us sharing with one another our crucial reflection on our practice. This was done during face-to-face contact, through online dialogue and through the development of multimedia and web based artefacts.

Permission to quote the dialogues of participants was greatly appreciated and reflects the nature of trust and mutuality that existed between us. Permission was also granted to use video clips of sessions in the thesis. The voice of participants have been an essential part of my research and they were asked to give feedback to validate my claims. I have asked participants for permission to video the sessions and to draw on specific material for inclusion in my Doctoral research.

Conclusion

In this chapter, I have sought to outline the evolving scholarship concerned with educational research methodology. I hope that my appraisal of the various forms of

contributions to improvement of practice through research by several authors I discuss, will explain why I have been particularly drawn toward an action research approach. I hope that this discussion also explains why I found a 'living educational theory' approach to action research to be especially satisfying and consonant with my teaching/learning process. In the following chapters, I intend to use this approach in my practice-based research.

Preface to Chapter Six, Seven and Eight

The following chapters are linked chapters and show my teaching and learning experiences in various contexts over a six year period at Dublin City University (DCU), from 1999-2004. From February 1999 to August 2002, I worked in the Computer Applications Department. From September 2002, I have worked in the Education Studies Department of DCU. Chapter Six revolves around my work with participants on the M.Sc. in Computer Applications for Education programme (1999-2001) based in the School of Computer Applications. There are two research enquiries centering upon the following two modules: *Computer Applications in Education* (2001) and *Network Information Management* module (2001). In Chapter Seven, I set out how I brought a 'living educational theory' approach to research into the M.Sc. in Computer Applications for Education programmes at DCU and the challenges involved in bringing a different form of research into the department.

I explain my own learning processes as I lent support to a participant on the M.Sc. in Computer Applications for Education, to research into his own practice as he attempted to integrate an online learning environment into a second level Science class. Chapter Eight presents my work with participants on the M.Sc. Education and Training Management (ICT) based in the School of Education Studies. This chapter focuses on the module entitled *Collaborative Online Learning Environments* (2003), formerly called *Network Information Management*. The module name change reflects the altered design of the programme that focuses on the educational use of ICT. The chapter consists of two research enquiries.

Chapter Six

Reflecting on my Teaching and Learning in Higher Education

Introduction

In the initial part of the chapter, I will document my own learning as I teach the modules: *Computer Applications in Education* (1999), (2000), and *Network Information Management* (1999), and (2000). I used them as a lead in to my main research enquiries. They provide me with an opportunity to show issues as they emerge in my practice and how I grappled with them. For the purpose of this research I will focus on two particular modules as part of my action research enquiry: *Computer Applications in Education* (2001) and *Network Information Management* (2001). The evidence of my teaching and learning on these modules includes selections from email correspondence with my supervisor, Jack Whitehead, my journal/diary entries, online dialogues with participants, and my engagement with relevant literature. Throughout this process, I engaged with participants as I attempted to help move their learning forward. I hope to make apparent this innovative interaction and its relationship with my own learning that represented an intrinsic part of the process.

Table 6.1 serves to illustrate the programme modules that form the context of my teaching and learning in the School of Computer Applications (DCU).

Teaching Context

Date	Department	Programme Title
1999-2001	Computer Applications	M.Sc. Computer Application for Education

Modules Taught

Computer Applications for Education 1999, 2000, 2001
Interactive Multimedia and Design 1999, 2000
Network Information Management 1999, 2000, 2001

Duration of Modules: 12 weeks

Programme Participants: Teachers from primary, post-primary, further and higher education.

Table 6.1

In this chapter, I deal with my teaching and learning in the context of the above modules (Table 6.1). My focus is on the *Computer Applications in Education* module (2001) and the *Network Information Management* module (2001). I discuss how I restructured these modules in the light of discussion with participants on the programme. I show how I endeavour to bring about improvement from the ground of my practice by questioning the value of the educational experience that I engage participants in. The changes brought about resulted from dialogue with participants on the programme, from my own reflections and from dialogue with my supervisor. However, changes to practice involved not only interactions between participants but involved wider structural aspects. I will show how I brought about structural change by engaging with these various factors.

In my self-study I use the action research plan as formulated by Whitehead (1989), as a framework to critically examine my practice. The action planner enabled me to critically examine my assumptions and values (Appendix A).

Background to the M.Sc. in Computer Applications for Education

In 1995, the Computer Applications department set up a Masters Degree in Computer Applications for Education. The programme had been established with the aim of providing professional educators with the knowledge and skills required for the effective use of technology in their teaching and learning context. These participants came from various backgrounds: primary, post-primary, further, higher, and adult education.

To fulfil the requirements of this MSc programme participants complete 9 modules and a dissertation. The programme was set up with the understanding that participants at primary and secondary level already had a good grounding in the pedagogic, social and philosophical issues related to educational developments and that they needed practical skills in order to incorporate the use of new technologies into teaching, delivery mechanisms and assessment methodologies. The programme was also aimed at third level educators who had graduated in non-computing disciplines and who wished to incorporate new technology in their teaching practices, but lacked the necessary understanding and skills to do so.

Computer Applications in Education Module: February – May 1999

This module was placed in the first year of the programme. At the start of the module, I wanted to create the space for participants to engage in discussion and debate around

current issues in ICT and their particular areas of interest within ICT in education. The core textbook that I used for the module was Somekh and Davis' (1997) book 'Using IT effectively in Teaching and Learning: Studies in Pre-Service and In-Service education'. I was happy to see that Somekh and Davis promoted the idea of action research as a form of inquiry for participants wishing to make use of ICT to improve student learning. Somekh argues that teachers should begin to acquire the habit of questioning the value of the educational experiences that they offer their learners. This notion of critically engaging learners with their practice was one that resonated with me. I realized that while I wanted to involve participants in the design of the modules, I had in fact developed the outline for this module in advance without involving the participants. The module was mainly lecture and discussion based, with opportunities for participants to use ready made educational software.

The general feedback from the group showed that they found the module content relevant to their teaching but that they wished to get to grips with various authoring tools so that they could develop their own multimedia and online resources specific to their needs. I realised, like proponents of action research, such as Somekh and Davis that I needed to question the educational experience that I was offering participants on the Masters programme.

Network Information Management module: October – December 1999

This module was a follow on from the *Computer Applications in Education* module and took place in the second year of the programme. As a result of my learning on the *Computer Applications in Education* module, I decided to provide participants with the opportunity to design and develop their own multimedia materials that would be

relevant in the context of their own teaching practice. This time I was determined to provide participants with the opportunity to design their own multimedia resources.

The *Computer Applications in Education* module had always been 100 percent project based. However, both the *Interactive Multimedia and Design* and the *Network Information Management* modules were mainly exam based. I doubted the appropriateness of a terminal examination if my aim was to support participants in their ongoing professional development and to help them explore how to design, develop and integrate ICT into their teaching/learning. I believed that it was important to engage participants in a critical dialogue with respect to the module goals and how they related to their individual work practices. It was becoming clear to me that my belief that participants should be creators of knowledge was linked to my emerging value that participants would need to take responsibility for their own learning by designing and developing multimedia and web based artefacts appropriate to their classroom context. I realised that if they were to become critical practitioners that they should be provided with the opportunities to explore and reflect on their own practice and show how they could improve student learning. As teacher-educator I felt sure that if participants learned to assume the role of creator of their own learning, they would become more motivated and learn to take responsibility for it. Barnett echoes similar views with regard to providing space for students: "They have to be granted and to feel that they have been granted space to make their own offerings, to formulate hesitantly their own insights, to contribute their own suggestions, to create their own products, to develop their own concepts and to engage in their own actions" (Barnett, 2000, p. 161).

Feedback received at the end of the module shows that participants found the 'hands-on' experience allowed them to integrate technology into their practice.

Although participants had the opportunity to develop web based artefacts, I felt that the values I attached to engaging participants in research into their own teaching, and demonstrating the improvement in student learning resulting from the design of the artefact, was not being adequately expressed. I realised now that participants would need to develop ICT skills within a critical reflective framework if they were to improve in a substantial and transformatory fashion their teaching through use of ICT.

Programme Board meeting (2000)

In order to make changes to a programme, the School of Computer Applications policy required the proposer to present a reasoned case for the changes at a Programme Board meeting. The *Computer Applications in Education* module was 100 percent project based. I indicated, before the meeting, that I wished to change both the *Interactive Multimedia and Design*, and *Network Information Management* modules to 100 percent coursework. In January 2000, I presented the new syllabus and assessment for these two modules at the Programme Board meeting. Staff in Computer Applications who taught on the programme and a student representative from Year 2 - the group I had taught - attended the meeting. The following two questions were raised with regard to the proposed changes from exam based to project based work:

1. Had I considered that students might be able to plagiarise if they are doing project based work?

2. Was the *Network Information Management* module now becoming too web based?

In answer to the first question, I assured the Board that the projects were grounded in the teacher's own educational practice and therefore that plagiarism would not be an issue. In answer to the second question, I pointed out that in the feedback on *Network Information Management* module participants had stressed that they would welcome more opportunities to explore the design and use of online learning environments. The student representative who was attending the meeting and who had completed the *Network Information Management* module that term, reported that feedback from participants was very positive about *Network Information Management* and that they had recommended that the module include the development and use of online learning environments. It was thus agreed by the Programme Board that both the *Interactive Multimedia and Design* and *Network Information Management* modules should be project based. It was also agreed that the *Network Information Management* module should be further developed with a focus on online learning.

Reflections on the changes in assessment

It was my hope that changing the assessment process from terminal exam to more project based work would offer participants greater opportunities to relate to the context of their own teaching and would help them to develop their capacity to integrate technology into their practice. This would also enable them to question what value technology was adding to their practice.

I wrote the following in an email to Jack Whitehead with regard to my own research question in the context of my PhD research.

Email One: (MF) 27th March, 2000

I am wondering where to start? I could look generally at changes in teaching and learning in higher education and how this may relate to the need to give students the opportunity to become more independent learners. Then, I could show how I could make use of new technologies and new methods of problem solving etc. in my own course. I could look at how I embed ICT into the programme in order to support the students and at same time be aware of underlying pedagogy supported by ICT in teaching and learning. I would have to examine the different learning technologies available and perhaps decide which is best to use in different circumstance. Throughout I will use action research to evaluate what I am doing and how the technology is being used to enable participants become more critical and independent in the module. It may mean that I have some of the session on-line rather than face-to-face.

In the excerpt above, I reflect on how I could integrate ICT into my own practice in order to better support participants on the Master's programme. It emerges from this that I had begun to see the need to use a more systematic approach in order to evaluate my own practice.

In my journal entry, I wrote the following:

Journal One: (MF) 27th March 2000

There seems to be a drive within the universities to develop teaching and learning. Dublin City University has appointed a new Dean of Teaching and Learning. A call has gone around university staff for proposals in the area of teaching and learning. I have just been reading an article by Littlejohn and Stefani. I was interested in what they had to say about the use of technology by teachers in higher education. They suggest that there is a limited conception amongst higher education teaching staff of how to use the World Wide Web effectively for teaching and learning. The say that with the increased emphasis on ICT that this may provide a platform for the development of a pedagogy for the new millennium. As I am now a lecturer in the university, I believe that I can make a contribution in this area of research.

Here, I am situating my learning in the context of DCU, where there is a growing awareness of the need to support teaching and learning in higher education. My reading of the literature suggests that ICT has a role to play in improving teaching and learning in higher education.

Purchasing of authoring software

I set about restructuring the modules and assessments and brought these changes through at Programme Board level. I believed that this restructuring would involve me in living more faithfully my own educational values. I realised that to enable me to support the professional development of teachers in a way that was meaningful to their work context, I would have to research and purchase more up-to-date, user-friendly authoring software. At the time Netscape Composer and Frontpage were the only web authoring tools available in the Computer Applications department. Having evaluated various authoring tools, I decided to purchase Macromedia Flash, Macromedia Director, Macromedia Dreamweaver and Hyperstudio.

Below, I provide a brief overview of the authoring tools I decided to use:

Macromedia Dreamweaver is a more sophisticated web-authoring package than Netscape Composer or Frontpage. It is a professional HTML editor for visually designing and managing web sites. *Macromedia Flash* is a program for creating animation for the Web. It is usually used by web designers to create beautiful, resizable, and extremely compact navigation interfaces, technical illustrations, animations, and other dazzling effects for their sites. Flash can however also be used to produce animation for teaching and learning purposes. *Macromedia Director* is a

very sophisticated authoring tool that allows one to bundle many different types of media into a single, powerful multimedia presentation. *Hyperstudio* is an interactive open-ended authoring tool to create projects and presentations. It is very popular in the USA in schools, both primary and secondary, and is used by teachers and students, including the very young. Compared with other multimedia authoring tools, for example Macromedia Director, Hyperstudio is very limited. On the other hand, it has a more favourable learning curve and it is ideal for novice developers. I felt that it would ease participants into the creation of multimedia artefacts.

Action Research Enquiry One: Co-creating a curriculum

In enquiry one, I used an action research planner (Appendix A) to present my claims to know my educational development as I ask the question, 'How do I improve the process of education here?' I outline my own educational concern as I reflected on my teaching on the module. This planner was based on the five elements outlined by Whitehead (1989):

- I experience a concern when some of my educational values are negated in my practice;
- I imagine a way of overcoming my problem;
- I act in the direction of the imagined solution;
- I evaluate the outcome of my actions;
- I modify my problems, ideas and actions, in the light of the evaluation...and the cycle begins again.

I experience a concern when some of my educational values are denied in my practice

Reflecting on my teaching on the *Computer Applications in Education* module and the *Network Information Management* module that took place in 2000, I began to see contradictions in my practice. I realised that I should have provided participants with the opportunity to reflect on their learning from one module to the next i.e. to build on their previous learning. I became conscious of the need to engage them in critical reflection on their previous learning so that they could take more control of their future learning. I invited guest lecturers from industry and education who were able to share their experiences in the use of multimedia with participants. This helped participants to place their research in a wider context.

I have already mentioned my efforts to change programme modules and assessment processes to reflect participant needs and to develop participants' capacity to make decisions about the content and process of their learning. I have begun to integrate online learning technology into my own teaching and learning. However, I am aware that I need to develop this yet further and am alive to the great growth potential of this form of technology. I can see that I need to provide participants with opportunities to reflect on the nature of their own learning and also to consider the type of data they would need to gather in order to make a judgement on the effectiveness of ICT on student learning.

I wrote the following in my learning journal during the *Computer Applications in Education* module.

> **Journal Two: (MF) 30th March, 2000**
>
> I am reading a book called 'The Internet – a Philosophical Inquiry' by Gordon Graham. In the introduction, he says that the internet is too new to allow much in the way of retrospective reflection on its nature and impact. Furthermore he quotes Neil Postman who invites us to ask of any piece of new technology – "*What is the problem to which this is the solution?*" This is a good basis for my own research. It allows me to question why I am using ICT in my own teaching and why I am encouraging teacher/participants to use ICT in their teaching.

I could see that by focusing on a question like Postman's, one would avoid introducing ICT into teaching without considering the rationale behind its use and how it might supplement, or substitute for, other forms of learning process.

I subscribed on a continuing basis to various online discussion forums on the use of ICT in teaching and learning. I was able to bring many of these discussions, topics and issues into my own teaching on the Master's programme. A particular discussion posting on the IEEE (Eye-triple-E) online discussion forum opined that academics in general, were not aware of the implications of the future of web-based delivery, and had little appreciation of the implications of the inclusion of sound and image. They posited the possibility that students might be asked to learn how to achieve their academic assignments by including sight and sound, in addition to the customary presumption of print. Allegedly, academics are failing to appreciate the long-term implications of what learning might be expected to look like in the very near future. This is an interesting point and made me question how I was living these changes in my own practice.

I imagine a solution to that concern

Before the start of the *Computer Applications in Education* module, I wrote the following in my journal.

> **Journal Three: (MF) 18th January, 2001**
>
> If reflection can help transform practice then what framework could guide me in helping participants to reflect on their practice? I am aware of the three elements of reflection as put forward by Boud:
>
> - *returning to experience*
> - *attending to feelings*
> - *re-evaluation of the experience*

Boud (1985) ideas remind me that knowing our practice is centrally about learning to reflect upon it. His reflective process involves looking back and looking forward. Thus it is pointed towards future action and not just our past actions. I believed that this would be a useful way to help participants to reflect back on their learning during the *Interactive Multimedia and Design* module 2000. In the module, *Interactive Multimedia and Design*, the participants had used Hyperstudio to develop a multimedia artefact for use in their particular teaching context. At the start of the *Computer Applications in Education* module, I wanted them to reflect on their rationale for designing the artefact. I believed that if I could encourage them to reflect on their own learning and development then they could bring their learning experience forward to the Computer Application in Education module.

I wrote the following journal entry at the start of the *Computer Applications in Education* module:

Journal Four: (MF) 13th February 2001

I refer to Lester's article 'Assessing the self-managing learner'. He describes the move from 'fitness for purpose' to 'fitness of purpose'. 'Fitness for purpose' concerns doing something that is worthwhile. It only includes a single loop test of validity, which may be limited by purpose and depends on how the purpose has been framed e.g. the purpose may be narrow and one can pursue aims regardless of their wider consequences. In moving to 'fitness of purpose', Lester suggests that the learners be asked to reconsider their goals in relation to a wider context. Learners must question the purpose itself and the theories and action associated with it. In this case, the learners are asked to place goals within a broader context and question their own assumptions. Lester reminds us that we still have to work with assessment itself. He discusses the idea of vertical assessment and horizontal assessment. The vertical model is content based and what has been learned is compared with a model for what is expected will have been learned. A horizontal model would look at how the learner carried out the following: enquiring, creating, reflecting and evaluating.

The idea of 'fitness of purpose' was closer to what I was attempting to do on the Master's programme. By asking the analogous question, "what are we seeking to achieve by using ICT?" the programme began to move into new realms of research and knowledge acquisition. The participants were now designing and developing their own multimedia and web based artefacts rather than only using ready made software.

I developed a new project brief for this *Computer Applications in Education* module. The project involved participants in designing and developing a multimedia artefact for use in their own context. In the design and development of the artefact, they had to consider the data they needed to collect in order to make a judgement in terms of student learning. The brief also required them to relate to a particular learning theory or learning theories that they were influenced by in the design of the artefact. Through this form of project work, I believe that I would be engaging participants in a more horizontal form of assessment. They would be enquiring into their own practice, creating multimedia and web based artefacts that related to their context,

reflecting on the type of learning theory or theories and the evaluation of their use in practice. This was much closer to Lester's idea of 'fitness of purpose'. I could now envisage my reaching a situation where the module content and assessment were not developed by me alone but through a more interactive, negotiated process in which participants would also be involved in co-constructing the curriculum.

I act in the direction of the solution

During the first session, I explained that feedback received from the participants who did the *Computer Applications in Education* module, the previous year, pointed to the need to link the *Interactive Multimedia and Design* module to the *Computer Applications in Education* module so that those concerned were building on their experience. In the *Interactive Multimedia and Design* module, they had used Hyperstudio. In the *Computer Applications in Education* module, participants were introduced to more sophisticated authoring tools. They were enabled to choose an authoring tool that suited their particular area of interest.

I also wanted to try to see if we could develop a link from the practical activity of building a multimedia artefact through relating to learning theories. In the '*Introduction*' **(Video 1: DVD 2).** I can be seen dialoguing with participant as I engaged them in the design of the module.

I believed that I should develop among the participants an awareness of how important it was that each one of us should articulate our several educational values. My clarification of these values with the group can be viewed on the '*Values*' video clip' **(Video 2: DVD 2).**

In an email to Jack Whitehead, I reported on my sharing with them the values that I wanted to live in my educational practice as teacher-educator on the programmed.

Email Two (MF)

- Promote deep learning - promote activities that will promote this form of learning
- Context - not separating knowing from doing. Situated learning - enter the community of practice.
- Creation of multiple forms of representation - allow opportunities for development of online portfolio of assessment
- Reflect on practice: Give them the opportunity to reflect on own practice.

I noted the following response from Jack Whitehead:

Email Three (JW)

> One difficulty in clarifying the meaning of values is that we have a tendency to make lists of values, while the meanings of embodied values need clarifying in the course of the living relationships within which the values are being expressed. I think some video evidence is invaluable to be able to point visually to the meanings of one's educative values as they are being expressed with one's students.

I talked through ideas of Boud (1985) ideas on reflection with participants.

I encouraged participants to reflect on their learning from the previous module, *Interactive Multimedia and Design*, so that they could build on their experience by asking them to relate to these questions:

- What did you learn from the projects last term?
- What was difficult?
- What were positive and beneficial aspects of the learning experience?

- How do you plan to build from the *Interactive Multimedia and Design* to the Computer Applications for Education module?

This was in line with ideas on reflection from Boud (1985).

Answers to these questions showed that the participants enjoyed having hands on experience of developing a multimedia project. They appreciated being able to decide on their own project. They however drew attention to the time involved in developing multimedia artefacts from scratch. While discovering the vast resources available online, they experienced a severe learning curve as they encountered problems such as finding the storage space required for multimedia, downloading of audio and video clips from the web. They learned from other people working in the field of multimedia. The help they secured from these quarters in showing them how multimedia could be developed gave added value to the process.

It was evident that everyone had their own area of interest that they wanted to develop. However, opening up opportunities for them to take responsibility for their own learning proved challenging as became evident in the subsequent discussion around the form of the project and the assessment criteria. Throughout, the first session I emphasized the importance of participants choosing their own project. This led to further discussions and there was an uncertainty element. The approach disturbed some members of the group who wanted a more structured form of project.

The excerpt below is from the discussion that took place around the project and the assessment criteria. This discussion took place during the first session of the *Computer Applications in Education* module in February 2001.

Dialogue Computer Applications in Education (2001)

Denice: So what's the goal then? If everything is so open and if it looks as if it is going to be left up to us to make a lot of decisions what's our goal? Different people will want different things but there has to be a goal. Do we decide our own goal because as you say yourself it has to meet a certain criteria, we need to have a goal to work to maybe in our own way to get there? Are we getting told the goal or do we have to decide the goal?

Margaret: What is the goal for Computer Applications for Education?

Denice: Everyone has different directions in which they want to learn. I feel there has to be some mark in the grass to keep us on track.

Ciara: I know what I want to do.

Margaret: There is a start. Please bring in your ideas of what you want to do next week. However I pointed out to them that this was only week one of a 12 week module.

Ciara: But if we choose animation and I use an animation package then it will be technical or do we do a second assignment?

Michael: Are we not supposed to relate it back to education?

Olivia: When you have the artefact built, you say how it is going to benefit?

Denice: Think about it before you start and decide what kind of educational benefit there will be.

Chris: You obviously choose it because you see the possible educational benefits of it in the first place.

Olivia: What will be the marking plan? I mean once the project is done on time what will be the marking plan of it?

Michael: I suppose you say what you are trying to achieve.

Nicola: And is it in line with what you want to achieve.

Denice: Say what you are trying to achieve and then say whether you have achieved it or not.

Chris: I think it is important that there is flexibility there. I think that to be exposed to different areas is important. I don't want to be singled in to an area. I would like to go into an area that I am attracted to. You have to assume that there is educational motivation in it and I can incorporate that into my job in the workplace.

Ann Marie: It seems to me that your idea (pointing to Margaret) is that you introduce us to different kinds of packages and something might grab us.

Denice: Are we then assuming that we will be designing a learning package again?

Margaret: That is what I want you to tell me.

Chris: Margaret made the point earlier that at the end of the *Interactive Multimedia and Design* module last term, she had asked us to fill in an end of module questionnaire. However the questions may not have been related to he educational values. We can go into educational areas which may not be of interest to anyone else but if they are valid educational areas then why not? If we can justify this as being valid then why not explain them?

Denice: Yes but then the assessment criteria?

Nicola: Well my understanding of assessment criteria with Margaret last term was if we choose a package and want to develop multimedia or sound. We are flexible to choose our own aspect and take it from there.

After the discussion, I asked participants to write down their goals for the module and to relate their goals to the module goals. I encouraged them to set their goals in relation to their own teaching context. I believe that it is vital to creatively engage participants in making learning their own so that they develop a more personal and professional relationship with their own practice. I listened to participants needs in order to co-create the module with them. My reason for this was that I believed that it was vital to critically engage participants in making what they were learning their own and to challenge them in their work.

I evaluate the outcome of the solution

The multimedia and web based artefacts that have been developed by participants relate to their own questions and concerns. I have developed a website with help from Hyowon Lee and Tom Sodring in the Centre for Digital Video in the School of Computer Applications, DCU. The website hosts the work of participants and this research work can be shared by other participants on the programme and indeed can be accessed by the wider public. It is interesting that Denice had many of reservations at the start of the module in terms of the direction of the module. In 'Denice' (***Video 3: DVD 2***), Denice demonstrates the artefact that she developed to her peers and discussing how the artefact was being used within her own teaching in order to bring about improvement in student learning.

I modify my practice, plans and ideas in the light of my evaluations

Next term during the *Network Information Management* module 2001, I feel that we could use the discussion features in a more dialogic way to discuss areas of concern in individual practices. Prior to teaching on the Master's programme, I had already experimented with online learning technologies, such as WebCT and LotusNotes, through professional development courses. I participated in these online learning programmes in order to find out how I could integrate online learning into my own practice. In 1999 I set up an online learning course using WebCT and used it within the Masters programme. I was mainly using WebCT to upload content material but not fundamentally changing my approach to teaching using the online learning technology. I tried to initiate discussion online during the *Computer Applications in Education* module. But in the end, I used the discussion forum to post notices and announcements.

Action Research Enquiry Two: Online Learning Journals

In this section, I show how I initiated the use of online journal writing during the *Network Information Management* module 2001. I used an action research planner (Appendix B) to outline my own educational concern as I reflect on my teaching on the module. However, in this enquiry, I will focus on the use of the action research planner by one of the participants.

The purpose of online journal writing was to provide participants with the space to articulate their own learning as they developed artefacts for use in their teaching. I hoped to provide a learning environment that would encourage deeper learning, where participants would have the opportunity to reflect on their practice in a shared

collaborative space. I believed that the 'living educational theory' approach would provide a framework and enable them to question their own underlying assumptions. I believed that this would allow participants to develop a more personal relationship with their practice and develop their capacity for self-assessment. Rogers underlines the importance of self-assessment. He believes that external evaluation does not make for personal growth: "*The more one can keep a relationship free of judgement and evaluation, the more this will permit the other person to reach the point where he recognizes that the locus of evaluation, the center of responsibility, lies within himself*" (Rogers, 1961, p. 54). This relates to my educational value of helping the participants to become responsible for their own professional development by developing the capacity to make decisions about the goals, content, process and assessment of their learning, by developing a sense of their own contribution to practice-based research.

I believed that it was important to develop participants' capacity as learners and that through reflection on their own experience they would develop a better understanding of their practice. Polanyi (1962) claimed that all knowledge has a tacit dimension through which understanding is possible, but that experience alone does not lead to knowledge. He claimed that rational reflection upon, and examination of, an experience is necessary to develop one's understanding. He called this 'personal knowledge'.

Initially, I was not sure how I was going to support participants to bring about their reflection on practice, and I was not sure of my role in encouraging them to do so. I sent the following emails to Jack Whitehead.

Email Four: (MF) **12th October 2001**

I would like participants to keep a diary as part of their project work in building web curriculum material. Hopefully they will be able to show improvement in learning through use of the artefact in their teaching. I wonder what forms of reflection are appropriate? In my research do I need to create a framework myself or use existing frameworks? An existing framework for reflection includes three key elements to reflection (Boud, 1985).

1. returning to experience;
2. attending to feeling;
3. re-evaluating the experience.

I am probably looking for something that allows them to reflect each week on whether I lived my values (embodied) in my practice but not sure if that gets to their reflections on their own learning?

In a later email, on 15th October, I wrote the following to Jack:

Email Five: (MF) **15th October 2001**

Perhaps it is not a weekly reflection on each of my lessons but exploring my influence in helping participants to create their own living theories as they work at improving the quality of student learning. It may be that they will only have time to develop material this term, and might not have time to think of how artefacts could improve student learning. However, they still will need to think about how they might be able to improve student learning through use of artefacts. Perhaps their reflections will be on their work with students and their own development posted each week to WebCT with my response to each of them. So I would be responding to their work as they try to improve the quality of learning for their students. Their reflections would be their work in progress as they attempt to develop curriculum based material for the internet in order to improve the quality of student learning - now does this make sense?

In an email response, Jack Whitehead responded by encouraging me to look over the emails that I sent to him on 12th and 15th October 2000 to see the developments in my own learning.

Email Six (JW)

I like what you say about the portfolios developing together with your responses. I wonder what idea of a 'curriculum' is implicit/emerging in your practice. I feel it's very close to the idea that individuals are creating their own curriculum through an engaged relation with the 'given curriculum'. I'm thinking of a curriculum in the sense of a curriculum vitae meaning the course of one's life.

On looking over the emails again, I was able to see developments in my own thinking and understanding with regard to how I could begin to integrate online learning journal writing into the *Network Information Management* module.

During the module, I found it challenging to introduce the 'living educational theory' approach as well as supporting participants, as they designed and developed online learning material. I spent time in face-to-face class sessions, answering questions related to 'living educational theory', as this was a new approach to participants. I wrote the following in my journal.

Journal Five: (MF) 12th October, 2001

This evening (Tuesday) the group worked through the action research process. There was a very positive response. They mentioned that they were answering questions that they never actually asked themselves before. We will start to write online learning journals and this will allow each person to document their own learning. I worked through Jean McNiff's book 'Action Research: Principles and Practices' and summarized ideas and presented to group. This resulted in lively discussions around the action research process.

I hope that through working through the action research process, that they could see the value of documenting the process of their own learning.

Jack Whitehead has amended his earlier formulation of "I experience a concern, I imagine a solution, I act in the direction of the imagined solution", I evaluate the

outcome of the solution, I modify my practice, plans and ideas in the light of the evaluation." From this there flows the following action plan.

- What is my concern?
- Why am I concerned?
- What do I think I can do about it?
- What will I do about it?
- How will I gather evidence to show that I am influencing the situation?
- How will I ensure that any judgements I make are reasonably fair and accurate?
- What will I do then?

I arranged a desktop videoconferencing, using iVisit, to link up with Jack Whitehead at the University of Bath. I asked each of the participants to prepare a short five-minute presentation on their research question. They had not met Jack Whitehead before but as they were using the Whitehead's 'living educational theory' approach, I thought that this would be an ideal opportunity for them to share their work with him. I also wanted participants to experience how ICT could support learning and teaching. During the videoconferencing session, each of the participants discussed his/her action research question with Jack and he responded, and focused them on their own learning. The videoconferencing technology added an extra dimension or a sense of presence, to our communication, allowing us to behave synchronously (real time) with the audio and video facilities. It also provided the participants with the opportunity to present their research questions in a shared, collaborative environment and to gain feedback, thus providing further opportunities for reflection.

I will present the online learning journals of Ann Marie Mee, a science teacher in a post-primary school in Dublin. I will show how I supported Ann Marie's efforts to articulate her own educational values as she developed an online learning course for her science class. By including the voice of Ann Marie in this presentation, I also hope to show how, through time, listening and awareness became part of my response in helping to move her learning forward.

Ann Marie Mee's online journals

In her online journal entry of November 28th, Ann Marie used the amended action research planner to help her focus on a concern in her own practice and to articulate how she intended to gather data in order to provide evidence of how she had improved student learning.

For the purpose of clarity, I provide a colour reference code to represent the various speakers in the following dialogues:

Colour Reference Codes

Margaret's response in **red**
Ann Marie's response in **dark blue**
My reflections on the learning process in **black**

Posted by Anne Marie Mee

Wed Nov 28, 2001 21:05

Margaret,

At last I've made time to think through what exactly I'm going to do for this assignment. I've forced myself to narrow down the subject area that I'm going to concern myself with. Here are my thoughts in the form of an action research planner

Action Research Planner

What am I concerned about?/Why am I concerned?

There is a new option on the Leaving Cert Physics course, called particle physics. It is new material to me too. At a recent in-service meeting the coordinator indicated that there appeared to be less than 20 percent of physics teachers planning to teach this option. The main reasons - probably the teachers' lack of familiarity with the material, also the fact that there were no practical/demonstrations suitable for the lab. Therefore it might be perceived as 'boring'. I have also been interested in encouraging my students to access the web for back-up material, etc. but feel that this would be of greater benefit if it could be directed and also monitored.

What do I think I am going to do about it?/What am I going to do about it?

I am hoping to be able to develop a module to teach the particle physics option for Leaving Cert and to put it in WebCT. Within the course material I will include links to relevant websites and maybe try to develop some Flash animations to explain some concepts.

How will I gather evidence to show that I am influencing the situation?

This is new subject matter for me and a new approach to teaching. I am trying to promote student centred learning where I am the facilitator or provide the scaffolding.... constructivism. I am also hoping that some collaborative learning will take place via the chat rooms in WebCT..... both between students and between students and me. This can be monitored in WebCT. I can monitor the number of times that each student accesses the course.

The questions that students ask me and each other, both in chat rooms and in class, will be important indicators of their understanding and their motivation. My past records and knowledge of individual students could be used to compare their motivation/participation/understanding/application.

A test at the end of a reasonable time - testing learning, understanding and application of knowledge. Discussion with the students afterwards about their opinions on the effectiveness of learning in this new way. I could also ask a colleague to assess my course from a teacher's perspective.

Act and Gather Data/ How will I ensure that any judgements I make are reasonably fair and accurate?

Now I must put the course together. To date I have spent time searching the web for suitable website links. I have also been learning the subject matter myself. My course will contain the basic elements needed for this topic, hopefully presented in a way that will motivate the students to learn better and to look for more information. I hope that one of the outcomes will be that the more motivated and more able students will have

an opportunity to delve further into the topic. This is difficult to incorporate into a traditional class where there are many abilities and interests…….. the norm is to pitch the class to the middle.

I respond to Ann Marie by asking her to think about how she is going to show that she has promoted student-centered learning and collaboration.

Posted by Margaret Farren

Thu Nov 29, 2001 14:05

Ann Marie,

It looks as if you are working through the action research cycle. You say that you want to promote student centered learning and collaboration, using online learning. The difficulty of measuring motivation was highlighted during the videoconferencing link up with Jack Whitehead last Tuesday evening. The question now is how do you intend to promote student learning? Again the focus will be on learning.

Margaret

My reflections on Ann Marie's learning (MF)

Ann Marie was clearly focusing on the questions in the action research planner and starting from a concern in her own practice. She articulated her intention of promoting a student-centred and collaborative approach to learning. I asked Ann Marie how she was going to be able to show that she was living her values of student centred learning and collaboration in her practice. This was Ann Marie's first experience of integrating online learning into her teaching. Thus the opportunity had arisen to integrate online learning technology in a manner consistent with her own

educational values. I asked her about how she intended to demonstrate that she was promoting student-centred learning and collaboration. My object was to focus her mind on the sort of data she would need to gather in order to actually demonstrate that an improvement in student learning had been brought about. A systematic approach to collecting data would be of capital importance in ensuring that her claims regarding improved student learning were fed into a knowledge base of practice.

Posted by Anne Marie Mee

Sat Dec 01, 2001 23:37

Hi Margaret,

Since talking with Jack Whitehead on Tuesday I've been trying to get my head around this action research thing.

I definitely had the wrong emphasis. I was concentrating on trying to learn to use an online tool to deliver a course, set up chat rooms, get students to use a network facility, learn how to use the various tools in WebCT to monitor students, etc.

I should have been thinking more about my values and reasons for teaching things the way I do, what I consider to be key factors in my approach to teaching a particular class of students or particular material, etc. How could I improve some area(s)of my teaching?

What do I expect my students to learn from my teaching? How can I know that I am achieving my desired outcomes? What can I do to keep my classes interesting, relevant, up-to-date ..... Am I passing on anything useful to my

students? Am I utilising the experience I have gained over the years to make the most of my teaching? So, what are the things that I value most? Will return tomorrow

Ann Marie

My reflections on Ann Marie's learning (MF)

The videoconferencing link up with Jack Whitehead certainly encouraged Ann Marie to reflect on her role as teacher. Ann Marie had begun to see the importance of focusing on her own educational values and reasons for teaching in a particular way. Ann Marie had also begun to see the importance of the 'I' in the enquiry and how a focus on her learning can in turn help her focus on the process of student learning. She was also seeing the personal benefit she could derive from focusing on her own learning.

Posted by Anne Marie Mee

Mon Dec 03, 2001 00:42

Hi Margaret,

Some of my thoughts, hopefully not too disjointed. Am I on the right track?

I have been trying to do some more things with WebCT and am coming to the conclusion that it might be an idea to put any Flash, graphics, etc. onto a website and create links from WebCT to there. Enough for today - (below attached file).

How will I ensure my judgements are reasonably fair and accurate?

Traditional teaching methods and methodology place the teacher in the dominant role of instructor, information provider and often performer in a classroom. I find more

and more that this role is becoming difficult and inadequate. How can I compete with the vast range of far superior presentation methods available to students in the media, TV, etc.? How can I keep up with all the 'knowledge' that is available. How can I provide for the many interest and ability levels of my students? In the past this was always difficult as I, like other teachers, was limited by the facilities that I had in my classroom. Now it should be easier. There is a vast store of resources available by way of technology and in particular the world wide web. But how can I use them effectively?

My reflections on Ann Marie's learning (MF)

Ann Marie had now become more confident about articulating her own educational values. With the limited class time available - the Computer Applications for Education Masters degree was a part-time course - it was often difficult to hear about the concerns different teachers were experiencing in their teaching as each grappled with new developments in curriculum, technology and teaching methodologies. Although these issues were addressed and discussed during face-to-face sessions, the online learning environment provided a space for teachers to reflect and articulate and share with others. Some concerns were specific to the context, others however were common to all contemporary teachers faced with a variety of alternative methods of teaching.

Anne Marie further elaborates on these concerns

As a teacher of Physics to girls for 20 years, I have been 'fighting' the traditional view that physics was a 'boy's' subject and to be a girl and do physics you must be very intelligent, (and probably a bit strange!). In fact, 20 years ago it was quite unusual to

find Physics on the curriculum in a girl's school. In the early days only the most intelligent students in my school chose to do physics - this was roughly 6 percent of a particular class. My argument has always been that if you want to do physics, that if you work at it, it should not be any more difficult than any other subject. The numbers choosing to do physics have risen over the years to on average 20 percent of a class group with a bumper 33 percent of fifth years this year. Now the class is a mixture of abilities. I believe that brighter students can help weaker students and in doing so can improve their own learning. I like to encourage the students to learn from each other. In reality this is possible, using my current methodologies, only during practical classes. In these classes it is often the less bright students who are better at 'putting the apparatus together', while the better students understand the theory behind the practical.

As a teacher of Physics, without a degree in Physics, I have always been aware of the difficulties of students, mainly because I would have encountered them a few nights before myself. From the beginning I was very aware that many of the students sitting in front of me were far more intelligent than I. Therefore I have always been learning from them. This is an aspect of teaching that I really value. I feel that it 'keeps me on my toes' always, hopefully keeps me in touch with the things that students find difficult and the things that most interest the students. It also means that while the curriculum changes little from year to year teaching never becomes routine.

I put a great emphasis on learning by doing. I also think that if something is made relevant to everyday experience that it is easier to learn. As the age gap widens between my students and I, I am more conscious that the gap is widening between

what I consider and what they consider to be relevant to their everyday experiences. Therefore I would like to see myself moving more into the role of facilitator and a guide of their learning processes or as the scaffolding for learning that Vygotsky describes.

My reflections on Ann Marie's learning (MF)

Ann Marie's educational values come across with some clarity in the above text. During the *Computer Applications in Education* module, which took place the previous term, we explored various theories of learning. One of the assignments involved the teachers in researching a particular theory that related to the multimedia artefact that they had developed. However in the midst of developing skills in different technologies and exploring new theories of learning and teaching, it is often easy to ignore the tacit knowledge that a teacher possesses or acquires. Although these ideas were explored during the face-to-face sessions, the online environment did provide that space for reflection and the articulation of personal values. Perhaps even in classroom situations it would be less easy to get at this knowledge and self knowledge that the on-line experience could elicit.

Ann Marie (Continued)

The ultimate aim of most of my students is to get as high a grade as they can in Physics in the Leaving Cert. I believe that this is only possible if they have been motivated enough to develop an interest in some parts of the physics course, if they feel that each has a valuable contribution to make to the class and they feel confident in their own ability. I firmly believe that every student can learn from every other student and that as a teacher I am always learning with my students.

I need constant feedback from my students - I believe that this is the best way of assessing my effectiveness as a teacher. I welcome this feedback in the form of questions, comments, suggestions, as well as the conventional student performance in exams. Unfortunately, as class sizes get bigger communication between individuals, student and student and student and teacher, gets more difficult. Often the quieter student is more reluctant to speak up and yet his or her contribution is as valuable as anyone else's. This is something that I have become very aware of as Physics has become a more accepted choice for the girls in my school and therefore the class sizes have increased. While the informality of practical classes gives lots of scope for collaborative learning and communication between the students and students and me, it is much more difficult to put into practice in theory classes.

I find it very difficult to put these values into words, but it has made me focus on what it is that makes me the kind of teacher that I am. I would love to ask my students to answer the same question about me. I would hope that there might be some overlap!

My reflections on Ann Marie's learning (MF)

Ann Marie is seeking to discover her values through reflection on her practice in the context of the classroom situation that she encounters.

Anne Marie (Continued)

So how do I improve my practice? How can I improve my role as a facilitator of learning in my teaching of Physics to Leaving Certificate students?

I would like to focus on the area of my theory classes as I feel that this is where I could make the greatest improvements. I would like to make myself more of a facilitator for learning. There are two things that I would like to incorporate into my pedagogy: (i) I would like to encourage of the use of the world wide web by my students and (ii) I would like to promote more collaborative learning both between the students and with me. I would like to look at the use of the world wide web for two purposes: (i) as a resource to provide information/graphics/ animations for curriculum topics for which there are no practical or demonstrations possible in a usual classroom/lab situation, (ii) as a resource to provide links to information relating to the curriculum which is topical, up to date or which a student may have an interest in pursuing. This could be particularly relevant for the new Science, Technology and Society component of the Leaving Cert Physics curriculum.

It is clear that this passage represents a real shift from the following online diary entry of December 1st, "I was concentrating on trying to learn to use an online tool to deliver a course, set up chat rooms, get students to use a network facility, learn how to use the various tools in WebCT to monitor students, etc." Ann Marie is now asking questions such as 'So how do I improve my practice? 'How can I improve my role as a facilitator of learning in my teaching of Physics to Leaving Cert students?" She has discovered a particular part of the Physics curriculum, which she could focus on in order to bring about improvement in student learning. In my view, the key part of Ann Marie's learning is the link she is now making between pedagogy, technology and student learning.

Posted by Margaret Farren

Wed Dec 05, 2001 15:56

Ann Marie,

Many thanks for the background and context. I agree - it is really difficult to put into words the meaning of our own educational values. I am sure that writing it down does help us to articulate the meanings of our values.

You have identified the advantages of each student learning from one another and learning by doing as values, which you hold and try to promote in practical sessions.

The fact that 33 percent are doing Physics this year and they are of mixed ability is an achievement. How can online learning and ICT help further develop collaborative learning and learning by doing?

Your concern: 'How do I improve my role as a facilitator of learning using ICT in the teaching of Physics theory to Leaving Cert students?'

How can you show - provide evidence - of your doing this?

Margaret

My reflections on Ann Marie's learning (MF)

I could have said so much more about the importance of what Ann Marie had actually expressed and communicated to us all in her online journals. How much would have been lost from her whole educational development if she had not articulated in writing

her own values as she worked through the action research process. Although Ann Marie does relate and integrate different theories of learning into her project work, she does not simply apply these theories to practice. Through the process, she has come to a better understanding of the importance of understanding her own goals and values. Ann Marie was engaged in a transforming personal voyage of discovery. I was able to support her by enabling her to construct her own narrative of her learning in relation with others, valuing her originality of mind and critical judgements, values and desires for enquiry learning on the part of her learning. Didactic interactions by contrast, might have weakened her sense of personal ownership of her action research. Ann Marie integrated these online journal entries into her *Network Information Management* assignment.

Ann Marie (Continued)

As a teacher involved in action research, I found myself learning by doing, creating, thinking, collaborating with colleagues, and getting feedback. These are some of the key values that I hold in relation to learning and teaching. I probably place more emphasis on them for the students but realize that they are as important for me if I am to be a better, more effective teacher.

The opportunity to carry out action research gave me a chance to think about how improvement in my teaching might be brought about by integrating some tools of technology into my teaching and my learning process and those of the students.

As students become ever more familiar with the latest technologies, the gap between them and their teachers could become enormous if teachers do not think about their

practice and 'learn' about new ways of teaching. It is important that teachers do not use technology just because it is there. They must have a pedagogic reason for using it. Reflection on practice will become important as more and more 'tools' become available.

I believe that the integration of new technology tools into the teaching and learning process will require a shift of emphasis from the traditional role of the teacher as 'information provider' to the 'teacher as facilitator'.

Analysis of my influence on Ann Marie's learning

In the previous account, I have shown the processes involved as I support a teacher's efforts to articulate her own learning through use of online journal writing during the *Network Information Management* module. When I started to teach on this module in 1999, the module syllabus was focussed on the technical aspects of using the technology. In the above account, I hope that I have shown how through the revised 100 percent project based assignments, participants are still learning about technology but they are doing so in a meaningful context, and in relation to their own educational development and student learning. My purpose in 1999 in presenting my reasons at Programme Board with regard to changing this module from mainly exam based to 100 percent assignment based was to enable the above type of learning to happen. Participants are still learning the technical skills but the technical is linked to the concerns and values, which each teacher brings to their educational practice as they grapple with new ways of using the technology to improve student learning. With the upsurge in the use of online learning environments, it is vital that participants

understand how they can best make use of online learning to improve their practice and student learning.

In the extracts of dialogues, above, I responded to Ann Marie in a supportive way in order to help move her learning forward. The online dialogue shows examples of interactions between myself and Ann Marie. It is interesting that none of the participants responded to one another's journal entries during the module. It is evident from some of the journal entries, on the other hand, that they did refer to other participant's journals. We did not set any ground rules on this at the start of the module, e.g. length of journal entry, number of journal entries per week etc. I did not know if participants would document their learning online. This may have been due to my responding to their questions rather than enabling the participants to respond to each other.

On reflection, I concluded that excessive teacher/participant dialogues crowded out broader conversations and the development of a real sense of online community of practice. The online forum did not amount to a truly collaborative learning environment. Although from the online learning dialogues it was evident that each participant was deeply engaged in the process of his/her own personal learning, collaboration and peer-to-peer interaction did not seem to be happening through the online learning forum. Participants were using the latter to articulate their concerns and were sharing their learning with me while I was responding to each to help move their enquiries forward. Nevertheless, this was certainly an improvement on my previous use of the online environment that had previously been limited to course content delivery and circulation of notices to participants.

Participants' online learning journals were not formally assessed. However, I encouraged participants to articulate and note down their own values over the period of the module. I believed that this process of reflecting and articulating, through writing, would enable them to come to a better understanding of their own practice [WWW6] [DVD1]. I believed that the online learning journals could act as an aid and enable each teacher-participant to look back and see their own learning progress. However, the journals were posted to a shared online environment, and this meant that participants could read one another's reflections, respond to them and learning could take place in a social environment.

Ann Marie's evaluation of her learning

I was gratified to receive the following e – mail from Anne Marie Mee in response to my request for comment on the methodology I had been employing:

From:	*"Anne Marie Mee" <ammee@esatclear.ie>*
To:	*"Margaret Farren" <Margaret.Farren@dcu.ie>*
Subjet	*Comments*
Sent:	*Fri, 13 Aug 2004 16:45:23 +0100*

Hi Margaret,

I find it interesting that at the start you had questions and doubts about how to go about gathering data and expressed these to Jack Whitehead via emails. His encouraging responses helped you to answer your own questions and to see the way forward. It reminded me of my situation when your encouragement and communications via WebCT helped me through the Action Research process. I

remember when I had finished this assignment feeling that I really did understand what Action Research was and that I had actually carried it out. When I look back over my journal entries now I'm surprised at how I articulated my thoughts, values and doubts – very honestly – for others to read! I can also see the progression that I made through the process and how your always positive comments, encouragement and leading questions brought me there. The use of online dialogue was also a key element as it meant that there were no 'constraints' on when/where the thinking and communication happened. For example, if I had a quiet time late in the evening to think I could always post my communication then and read your response when I had time to assimilate it. The failure of the class members to communicate online was probably because it was easy to communicate 'face to face' or by phone. Or maybe there was still an element of regarding you in the 'traditional' role of the teacher.

Since finishing, I find myself frequently trying to think - how can I make a class more interesting, how can I help the weaker student in the class, how can I make learning more relevant, etc. I spend a bit of time trying to source online and other resources. I have tried to introduce a system of self assessment for some of the non-exam students. I find it frustrating that shortage of resources and the size of classes and the 'points system' can make the role of teacher as facilitator difficult to carry out in reality. I do believe that the Action Research approach to teaching should provide a better way of learning for individuals of all abilities.

Most of the taught courses for the M.Sc. were structured in the traditional format of lecturer as information provider. Your sessions were not. There was a topic/ questions/ presentation by an expert followed by questions/ videolinks/ experimenting

with different multimedia packages and hardware/ group discussions/ etc. where you were as much a part of the group as the teacher. However, you always directed the course of the session with questions, discussion pointers, etc. It was quite informal. At first I found this 'new' approach difficult to cope with. At the end it made me think a lot more about my capabilities, my values as an educator, my own teaching methodologies. I really enjoyed attending sessions for these two courses. We got a chance to sample a broad range of multimedia and web based resources and to choose those that suited our needs/interests at that time. There was always a lot of collaboration between class members and between class members and you – helping each other with new software, technical problems, suggestions for designs, assignments, etc. Having no terminal exam was a bonus and was a great incentive to put a lot of effort into assignments and feel a sense of achievement. You always negotiated with us and encouraged us – there were never negative responses. I was very slow to get going with the WebCT online dialogues. It was like thinking out loud and there was a certain fear of 'exposing' oneself associated with that. Teachers tend to work and think alone.

I believe that most of the values that you have listed in the document are illustrated by these kind of disjointed memories. Your dedication and commitment to the process of education and your interest in your students is memorable and fairly unique in my experience.

Ann Marie

Conclusion

The purpose of the online learning journals was to provide participants with opportunities to document their learning as they developed web based artefacts for use in their work contexts. The goal of the enquiry was to develop participants' capacity to take control of and responsibility for their own learning. The enquiry focused on how one participant, Ann Marie Mee, engaged in this process. The main record of how I encouraged her to engage in this process can be found in her online learning journals [WWW6]. I was pleased to note the degree of success I had achieved in evoking through online dialogue, a personally proactive approach by participants not only to knowledge acquisition but to the application of action research in their own teaching practice. At the same time I became conscious of a missed opportunity to enlarge my own dialogue and to supplement this with inter participant dialogue. Each participant had engaged in dialogue with me rather than with one another. I began to see the potential for using the online learning environment to support participants in dialogue with one another as they articulated their own concerns in practice. In light of my learning, I reconsidered my use of the online learning environment in order to foster more intensive student/student interchange. This will be dealt with in chapter eight. I will now continue to focus on supporting participants and my role as supervisor of masters degree research.

Chapter Seven

Supporting Teachers in Masters Degree Research

Introduction

In this chapter, I explore my own learning as a supervisor of research enquiries in the context of the M.Sc. in Computer Applications for Education programme. I explore the challenges involved in bringing a 'living educational theory' approach into the academy as I support a participant (participant A) in carrying out research into his practice. Then, I explore my influence in the learning of a participant, Chris Garvey, as he carries out research into his use of an online learning environments in a post-primary Science class. My influence is seen in the opportunities I provide to participants to critically reflect on their learning through peer validation meetings. Evidence of my influence on the education of wider social formations is shown by the fact that research using a 'living educational theory' is now firmly established as an accepted form of research in DCU.

My learning as supervisor of masters research

In this section, I will document the process of my own learning as a first time supervisor of practice-based research. For the purpose of confidentiality, I refer to this student as Student A. I had not long joined the Centre for Teaching Computing in the School of Computer Applications DCU when I was asked to supervise one of the participants on the M.Sc. in Computer Applications for Education programme. During our first supervision meeting, the student talked through possible ideas for his

dissertation. From this discussion it became evident that he was interested in exploring ways of improving his own teaching through the use of ICT. During the discussion, it emerged that during the taught part of the Masters degree programme he had encountered only a positivist approach to research. He was not familiar with interpretive or action research approaches. During the first meeting, it became clear that student A's research question did not fit within a positivist framework. His research intentions seemed to be more suited to a qualitative approach. At the end of the meeting, I suggested that he look at other forms of research before our next meeting.

He talked about how the Masters programme had mainly focused on the technical aspects of technology in education while his focus was on how he could improve his use of technology in the classroom. He expressed an interest in using a more qualitative form of research that might more effectively enable him to study how he could improve his own teaching through the use of ICT. He eventually decided to use an action research approach as it seemed to be the most appropriate form of research in such a context. Denzin and Lincoln (1998, p. 3) point out that "*the choice of research practice depends on the questions that are asked, and the questions that are asked depend on the context*". The student was apprehensive about having to learn a new methodology at the same time as carrying out his research. As this was the first time, I had supervised Masters degree research, I was also placed in the position of a learner. We agreed that we should have weekly meetings in order to work through the action research approach and the actual research.

Between these meetings, I engaged with literature in the field of educational research and action research in particular. During our meetings I shared my insights into action research with the student. I was learning that rigour and validity were prominent among the criteria used to judge an action research enquiry. This differed from a positivist approach that paid more attention to criteria, such as, reliability and generalisability. I advised the student to engage with relevant literature on educational research. During the meetings, we discussed Winter's six criteria of rigour for action research enquires and ways to ensure the validity of action research. During this time, I was corresponding through email with Jack Whitehead, an international expert on action research who is based at the University of Bath and I also took part in the Action Research and Evaluation on line (Aerol), run by Bob Dick at Southern Cross University, Australia.

I was also searching and evaluating online action research resources and making these resources available through my own website. I was beginning to see how ICT was supporting my learning and enabling me to engage with a wider community of practice. Through ICT, I was connecting with experts in the field of action research and engaging in ongoing debates in this emerging research field. Jean McNiff, an action research authority, was based in Ireland and involved in the supervision of teachers who were using an action research approach for their Masters degree dissertations. Jean was organising weekly meetings for her students at a primary school in North Dublin. During my supervision of Student A, we attended these validation meetings that provided an opportunity for me to share accounts of my supervision and for student A to validate his own action research. The validation meetings drew on Habermas' four criteria of social validity, that is, comprehensibility

of the account, evidential support for knowledge claims, exposition and justification of educational values and evidence of the educational influence in the learning of others. Thus I was engaging student A with a wider community of learners and providing him with opportunities to present evidence of practice to a validation group, that was an integral part of a 'living educational theory' approach to action research.

I had due regard for the marking criteria for the M.Sc. in Computer Applications for Education dissertations at DCU. Although the student did not follow the typical control/experimental group study approach expected of positivist research work, the action research study method used was within the terms of the examination guidelines laid down for the M.Sc. in Computer Applications for Education. The marking procedure recommended that two internal members of academic staff in Computer Applications mark the dissertation. Supervisors are not involved in marking the dissertations that they supervise. After internal assessment dissertations are sent to an external examiner for comments and marking. In submitting student A's action research enquiry for marking to the internal markers, I included the criteria required to ensure the validity and rigour of an action research enquiry. These guidelines outlined Winter's six criteria of rigour and the criteria related to social validity. The internal examiners returned student's A dissertation to me with a simple pass mark. I felt an injustice had been done, as I was surprised when I noted from the comments made by the two internal examiners that this action research enquiry had been appraised within a behaviourist framework without reference to recognised action research criteria. This predicament reminded me of Dadds' (1998) observation that dominant research cultures have tended to belittle the relevance and quality of practitioner research as a legitimate methodology. After taking time to reflect on the best way to proceed, I

decided to ask that the dissertation be marked by someone who was familiar with an action research approach. This was agreed and a third marker was asked to comment on the dissertation. This time an honours grade was returned with full written comments justifying the mark. The dissertation was then forwarded to the external examiner with comments from each of the three internal examiners and recommended marks attached. The external examiner agreed with the honours grade which was duly awarded.

A few years later, in 2002, I had once again to question a mark awarded to an action research enquiry carried out by a student on the MS.c. in Computer Applications for Education. As on the previous occasion, the criteria for carrying out action research enquiries were attached for the attention of the internal examiners. Again these criteria were ignored and comments were made from a behaviourist standpoint. Once again, those concerned had recourse to a third examiner (not the same third examiner as in 1998) who was familiar with an action research approach. Again, in this case, a higher mark was awarded. All three markers comments were sent to the External Examiner who agreed with the higher mark. It was clear to me that those cast in a radically different research mould would have difficulty in relating to, let alone appraising, studies based upon action research objectives and methodologies. Thankfully, the action research studies in Dublin City University enquiries were recognised by the academy as a legitimate form of research.

In my experience of supervising action research studies/enquiries from 1998 to 2002, in the School of Computer Applications at DCU, the following questions were raised

about these studies/enquiries despite the fact that action research is a recognised form of educational research:

- Should there not be a control and experimental group?
- Should teachers be doing this kind of research?
- Is it proper to use the first person singular in a dissertation?

These issues have been raised by other researchers. Sandelowski (1994) points to the need to educate ourselves (as practitioners, critics, and consumers of research) to recognize the difference and judge the genres accordingly using appropriate criteria.

My continuing commitment to supporting action research studies/enquiries was a consequence of the importance I attached to giving participants the opportunity to choose a research methodology that allowed them to ask, research and answer the question, 'how do I improve my practice?' For those engaged in a knowledge industry, incessantly working with ideas and perceptions, this question has almost primordial significance and wide implications. As a supervisor of action research studies/enquiries, I could see how vital it was for teachers to repeatedly question their own underlying assumptions and articulate the values that gave meaning and direction to their life and work in education.

My learning as supervisor of Chris Garvey's masters research

For the purpose of clarity, I provide a colour reference code to represent dialogues.

Colour Reference Codes

Margaret's dialogue in dark red
Chris' dialogue in dark blue
Jack Whitehead's contribution in violet
My reflection on the learning process in **black**

Network Information Management module (2001)

During the *Network Information Management* module that took place between October and December 2001, Chris started to experiment with Blackboard, an online learning environment. During the module, Chris posted the following online journal to WebCT.

Posted by Chris Garvey

Tue Nov 13, 2001 11:59am

Hi Margaret,

From the outset I wanted to do an assignment on using the internet for course delivery as a supplement to traditional face-to-face classroom teaching. The course material would have been delivered in the traditional classroom environment already. My interest in using web technology to complement traditional teaching methods comes from a belief that it can enhance both the teaching and the learning process. It would enable me to select and provide resources that would include assignments, course supplementary notes, simulations and answers to problems. I would be the filter for

the vast array of resources the web has to offer. The material I could put at the disposal of my students would be determined by me from the resources available on the internet. I am also interested in developing both synchronous and asynchronous collaborative learning methods for my students online and monitoring their effectiveness (the pressure of state examinations and restrictions on time does not generally permit such collaborative learning within class time). I would do the assignment in WebCT.

My Reflections on Chris' learning (MF)

In the following extract he can be seen to reflect upon and articulate his concerns about how he will carry out research for his Masters Degree dissertation, that was due to start in January 2002.

Chris (continued)

Looking further down the line (at a dissertation) my original idea was to do some sort of comparison between online delivery via WebCT and a teacher developed website and to maybe determine advantages/disadvantages in each method. I then revised that idea and decided that I would deliver online to students and determine the impact of doing so. Ideally, I would need to have two classes from the same year and for the same subject for making comparisons. I would also need adequate computer room access for one of these classes. Then the trouble started, as you know. The practicalities of my working situation and the extent to which I would be able to MEASURE or evaluate how effective my online delivery has been have been on my mind continually. The only feasible class for me to work with is a transition (4th) year chemistry class of 20 students. Splitting them up is not possible so I could not

perform any statistical comparisons based on class grades. From my readings of past research it appears to me that some standardized test (eg Drumcondra SAT) should be applied if you want to pre test and post test a class. However, these tests do not measure what my online course would set out to achieve, namely, improved understanding and increased knowledge of chemistry. Another possibility is to use the students interactions within the chatrooms to qualitatively assess the impact of online interactions, however, I am not fully confident in my ability to do this. It appears to me now that any future thesis will be decided by what I can measure. The theses that would interest me do not lend themselves to measurement under present circumstances. I have probably been too caught up in these 'down-the-line' problems. Chris

My reflections on Chris' learning (MF)

I responded by confirming and clarifying issues in order to help move Chris' learning forward by suggesting that he perhaps read some books related to qualitative methods. The Masters degree in Computer Applications for Education programme included a module on Research Methods but only quantitative methods were treated. Thus participants on the programme were inevitably directed towards this particular method of carrying out and presenting their research regardless of the research question they might wish to pursue. I was concerned to ensure that participants' research questions were consonant with their command of relevant methodology, however secured. Chris' email highlights his own concern in terms of the research design.

Posted by Margaret Farren

Wed Nov 14, 2001 22:54

Hi Chris

I note your concerns with regard to issues around the measurement of learning outcomes. You seem to be pointing to the need to use other forms of evaluation in order to evaluate the quality of the learning experience for the students. I think it is important to remember that you are not just using a ready-made package and evaluating its use in class. You are developing an online course and you will be building your own online learning material etc. You will need to consider design elements, types of learning/pedagogy which you believe are important for online learning environments and literature that confirms enhanced learning. In this case, it is very different to a dissertation which does not involve any element of design and development. Re: qualitative research, there are books on qualitative research and Online Learning work. Therefore I would see the measurement element as a small part of your overall dissertation.

Margaret

In this section, I explain the processes of my supervision of Chris Garvey, a student on the M.Sc. in Computer Applications for Education between 2000 and 2002. My educational values can be seen to emerge in my educational supervision with Chris as I support and challenge him through his practice-based research. I show how the values that emerge in the process of my supervision become communicable standards of judgement. My evidence includes dialogue between myself and Chris, i.e., face-to-face and through technology, in the form of email correspondences, video clips of

group validation meetings and videoconferencing. Learning is seen as a process that involves dialogue and participation rather than a purely individual experience. Technology is used to support this collaborative and dialogic process. Chris' learning can be seen to develop in collaboration with me, as I support his enquiry into his practice aided by Odilla Finlayson, a lecturer in Chemical Sciences at DCU with particular interest in PBL in Science teaching, and also aided by Jack Whitehead, supervisor of my PhD research and an international expert in action research. Further relevant inputs came from other teachers, Fionnuala Flanagan, Mairéad Ryan and Bernie Tobin through group validation meetings.

I used the five categories for types of reflection-on-practice formulated by Ghaye, A. and Ghaye, K. (1998) to analyse the developing nature of Chris' learning. These are as follows:

1. Descriptive reflection-on-practice
2. Perceptive reflection-on-practice
3. Receptive reflection-on-practice
4. Interactive reflection-on-practice
5. Critical reflection-on-practice

I will refer to these categories as a way of helping to analysing his reflections and to show how action research helped him to develop his capacity for reflection.

For his Masters dissertation research, Chris decided to explore the potential of an online course management system (Blackboard) used as an optional supplement to

traditional classroom teaching and learning, in order to enhance the educational experience of second level Chemistry students in an all girls school. From this experience he decided to carry out an enquiry into the use of the system with a Transition Year Science class.

At the start of his Masters research, I suggested to Chris that he work through the material accompanying Blackboard, in order to find out what claims are made about Blackboard in terms of the nature of the learning that it was encouraging. I believed that this would help him to discover if the educational goals of the software were related to his own educational values. I also believed that it would help him focus on the learning that he was trying to promote using the online learning environment and the educational values he wanted to live in practice.

The following extract details how Chris relates the claims made by Blackboard to his own educational goals and values. At the start of his research enquiry, I asked Chris to write down his own educational values. Although I realize that a list of values is meaningless unless we can show how we are living these values in practice, I do believe that it is important to be able to articulate what is important to us in our educational practice.

Chris' Educational Values:

In dialogue I was able to form the following view of Chris' educational values, as conceived at this stage of the course. This was ultimately used in his dissertation.

- I am unable to give my understanding of a subject to a student. Each student will develop their own unique understanding as a consequence of their interactions with knowledge, which I, in part, provide.

- I have a duty to try and create the best environment possible to facilitate learner-knowledge interaction and allow the students come to their own understanding of a subject. I have a duty to use my skills and experience to mould that environment in a manner that best suits their needs as learners.

- The learner is not always ready to learn at the time that I am scheduled to teach.

- Students can often learn better through peer-peer interaction and it is my duty to facilitate this.

- Students must learn how to learn and need to take responsibility for their own learning.

On the 14th April 2002, Chris asked if we could meet me to discuss the progress of his dissertation, which he had planned to complete in mid-June. The following day he came to my office and we discussed his research. He was optimistic about the use of online technology if employed in the correct manner, but he felt that the correct manner was somehow eluding him. He discussed his frustration at students' lack of enthusiasm for the use of the online learning environment which did not correspond

with the presumed benefits of online learning as extolled by the literature he was reading. He believed that he had reached the conclusion of his research enquiry which was that online learning technology would not work in second level schools in Ireland. We discussed the fact that he was teaching an all girls science class. I talked also about the use of problem based learning (PBL) by Dr. Odilla Finlayson in the School of Chemical Sciences. We also discussed the action research approach and I suggested that, in action research terms, Chris may have simply reached the end of his first cycle. I asked him how he would intend moving forward were he to take what he had learned from the first cycle of his research into a second cycle. I reminded Chris that one of his values was the importance of allowing students to take responsibility for their learning. I asked him how he was trying to enable them to take responsibility.

The following extract from Chris' dissertation explains Chris' interpretation of the meeting.

Chris (continued)

I would always have considered myself a firm-but-fair teacher who felt that maintaining classroom discipline was one of the more important requirements of my work. My classroom approach could be described as didactic; most of my class time spent delivering knowledge in the 'chalk and talk' manner. I felt that success in the online environment that I developed would depend on my setting the right tone for that environment and would mean implementing a more relaxed environment. I also felt that I was bound to make many mistakes during this first attempt. The new medium/modality presented many challenges, just as classroom teaching had

presented in my early teaching career, and mistakes were inevitable. Over the years I have tried to constantly assess my classroom teaching and modify it, as appropriate, according to the feedback received in order to achieve additional success.

It was becoming frustratingly obvious to me that my efforts at persuading the students to voluntarily adopt the online communications features of the course management system were not being very successful and that I needed to evaluate the situation and thus move on to another cycle. The educational values that I claimed earlier to hold were not being lived in practice. In particular my values concerning the fashioning of the right environment to promote peer-to-peer collaboration and encouraging responsibility in the students for their own learning were being contradicted by the reality of the situation. I became aware of a need to find a different approach in order for these new ideas about the educational opportunities presented by the technology to be accommodated.

My reflections on Chris learning (MF)

It was gratifying to note from the above extract that Chris was engaging in **critical reflection-on-practice**. Chris was beginning to question accepted routines, and classroom practice. This type of reflection is about the individual teacher, the individual as part of the whole school culture, and how his teaching might be transformed in order to improve the quality of his educational relationship with his students.

Chris (continued)

In discussion with my supervisor, I explained these frustrations and we talked through possible solutions to these difficulties. In a subsequent validation meeting with Dr. Jack Whitehead and other teacher researchers, he identified this period "as perhaps the most significant in the enquiry ….. the fact that you negotiated with another partner in education, and gained some ideas, and tried them out, has clearly taken your own learning forward. We felt that the students needed more incentives to employ the technology and the online community was too enclosed. We then considered ways to open up the community.

In the discussion with my supervisor we also considered the focus of the research and discussed my readings on female participation in the physical sciences, in particular, the lack of successful role models available to them. In this context, my supervisor put me in contact with a faculty member of the School of Chemical Sciences in Dublin City University, Dr. Odilla Finlayson, who has a particular interest in education, especially in the area of PBL.

The Challenge of problem based learning

During the meeting I noticed that Chris was hesitant about incorporating PBL into this teaching. At the end of the meeting, Chris said that he would reflect on our discussions over the next few days.

On the 16th April, 2002, I received the following email from Chris.

Hi Margaret

Before I met you on Friday I thought I had slipped into cruise mode and that the dissertation was starting to take shape. Now I feel like I am floundering again - back at square one almost. On the subject of PBL I would be very apprehensive about tackling something like PBL in the dissertation for several reasons - 1). I know very little about it, 2). from what I do know I would have to admit to being sceptical about it and how it would go down with the students (never mind their parents), 3). I don't see how I could incorporate it? with Blackboard in the time I have. That is not to say that I have completely ruled it out. I accept that I must pin my 'question' down and I am still puzzling over it. I came across definitions of learning and instruction in one of the articles I read recently. "Learning is a process of transformation of knowledge that occurs through interaction of an individual with information in that individual's environment" and "instruction is the fashioning of the learner's context to optimise information interaction, and hence learning". If these definitions are accepted then the educational potential of Blackboard is obvious. When you say that you notice I want students to take responsibility for their own learning you are correct. I suppose that I must accept that students don't always come to the trough when you want them to but when they themselves want to. As a teacher then I must try to "fashion" an appropriate environment for that time, whenever that might be, when they consider

some knowledge scaffolding is in order. Anyway, sorry about the long email but I am wrestling with a few things at the moment.

Chris

My reflections on Chris learning (MF)

I believe that this email reveals that Chris was coming to the view that learners should be offered choices to make concerning their learning. In his email there is a recognition by Chris that his task was to create an appropriate environment to enable the students to take responsibility. He was taking a considered approach with regard to the possible use of a PBL approach. He did not see PBL as some theory that could simply be applied to his practice. He realised that he needed to think through the issues and consider the use of PBL in light of his own teaching context.

On 18th April, 2002 as I was updating online resources for the M.Sc. in Computer Applications for Education programme, I came upon a website with online resources about Maths, Science and Technology programmes for girls in the United States. I emailed this link to Chris as I thought it would be useful in his research. A week later, on 25th April, I received an email from the Dean of Teaching and Learning, DCU inviting staff to a lunchtime seminar presented by Odilla Finlayson of the School of Chemical Sciences on the subject of current interest and debate: 'Science Education - approaches to laboratory teaching.' The email also included an attached document - Report of the Task Force on Physical Sciences.

I emailed this information to Chris as again it was directly related to his own research work. My role as supervisor involved me in living through the difficulties and

dilemmas Chris was undergoing, empathising with him, while at the same time acting as a critical friend.

On Wednesday 27th April, I received the following email from Chris:

Hi Margaret,

I am reading the report of the taskforce into the Physical Sciences and here are two quotes;-

"Resources are not pooled nationally to promote the study of Science at all stages of education. Promotion by science teachers and guidance counsellors [of science] is hampered by the lack of partnership between third level and industry".

And under recommendations

"Establish a virtual learning environment to support the teaching and learning of science

To include.....

-a system, populated by e-learning content for science, particularly the physical sciences; open-ended system protocols so that teachers and others can seek to add their own content;

-a framework allowing teachers and others to structure and manage learning resources, curriculum content, student access, collaboration and assessment."

I seem to be at the leading edge here!

Chris

My reflections on Chris' learning (MF)

From a trough of difficulties and growing disenchantment, suddenly Chris was becoming more self-confident and aware that he could be breaking new ground. I believe that this was a key moment in Chris' recognition of the value of his own practice-based research approach in enabling his appropriate use of online technology as a support for teaching and learning of Science. I had challenged Chris to show evidence of how he was providing opportunities for his students to take responsibilities for their own learning. However, I was also supporting him through that period and through dialogue and critical reflection, and he was now beginning to see the viability and importance of his research enquiry.

Chris expressed an interest in meeting with Dr. Finlayson and the three of us met to discuss the PBL approach and its potential use within Chris' research enquiry. Chris had the opportunity to listen to Dr. Finlayson as she discussed how she was using a PBL approach in her own teaching of Science to undergraduate students.

The following extract is from Chris' dissertation.

Dr. Finlayson explained to me the PBL techniques that were being deployed in some courses in her faculty and believed that they could just as successfully be deployed at second level. She generously volunteered to come and visit the school and engage the students in a PBL session. Towards the end of the research period Dr. Finlayson, and Ms. Farren visited the chemistry class and conducted an eighty-minute session using PBL techniques. The session involved the students splitting into groups of between three and five students after Dr. Finlayson had identified a suitable problem for them. Dr. Finlayson applied the problem to the real world experiences of the students' so

that it presented authentic opportunities. for them. The subject matter was organised around the problem and not around the discipline of chemistry thereby giving the students responsibility for defining their learning experience and planning to solve the problem. Both Dr. Finlayson and I circulated through the room encouraging the students to collaborate together and guiding them in asking questions appropriate to finding a solution. The students were expected to demonstrate the results of their learning by presenting their solutions to their classmates at the end of the period. The problem concerned the viability of establishing a small balloon-selling business and they were expected to solve it using the information they already possessed about the gas laws and the chemical elements. This would lead them to a greater appreciation of what they already knew by engaging in investigation to better understand the problem and then resolve it. At the end of the session, Dr. Finlayson presented the students with another problem to be solved through collaboration in the same class groups. The students were instructed to give themselves a grade for their work and to briefly justify that grade. This, it was felt, would make the students take more responsibility for their learning as it would promote a sense of ownership of the learning process, in accordance with the educational values espoused earlier. The next class I had with the students was one week later and they were given twenty minutes at the end of that class to work in their groups on the problem. They were given a deadline five days later and were told they could go to the computer room, if they wished to do so at that time, to post their assignments. One group posted their assignment on the Sunday before the deadline, and the following day the other groups posted theirs from the computer room.

Here one may see a good example of what is meant by **receptive reflection-on-practice**. Ghaye & Ghaye (1998, p. 29) refers to this as 'positioned' knowledge in that it is positioned in terms of a broader frame of reference. Reflecting on practice in a receptive manner entails reconstructing practice in a way that allows for new possibilities for action arising from new insights. Chris showed an openness to a new approach to teaching. He was able to reconstruct his own teaching through use of a PBL approach. He engaged with the literature on PBL and, opened up the learning environment to include a link with third level. The inclusion of a problem based approach and the link with third level proved educationally beneficial to the students. Chris began to live his own values more fully in practice. The PBL approach has given students the opportunity to take responsibility for their own learning. This shows evidence of improvement in Chris' practice and also improvement in students' use of the online learning environment through Dr. Finlayson's presence in the research enquiry.

Chris (continued)

Although PBL was not in my mind at the outset of the study, it became part of the enquiry as a consequence of my reflection on the failure of the students to mirror my enthusiasm for the systems features, an enthusiasm I foolishly assumed they would share. I discovered the students showed more enthusiasm for this new way of learning than they did for the communications features of the system, but this new means of learning, in turn, provided a reason to engage with those communications features and incorporate them into their learning processes.

It has been clear throughout this research that the students were not entirely

enthusiastic about the system. Voluntary adoption of such a course management system by female Irish second level students, in a manner that utilises the system to its full potential, especially its potential to facilitate both student-student and student-teacher communication, is not a simple and straightforward matter. Perhaps students need to develop greater group communicating skills in a classroom first, before they go online. An obvious impediment to the usage of such a system is the issue of access. Until such time as home Internet access is as commonplace as home telephone access it is unlikely that implementation of such systems, on any basis other than voluntary, will occur. Without the prerogative to oblige usage of the system an opportunity may be lost to enable students to take more responsibility for the learning processes as members of a broader learning community.

In the following extract from Chris' dissertation, he reflects on the challenges that he faced in introducing PBL and online learning into his teaching.

Another possible reason, as shown by this study, for the students not fully adopting the system is that the actual geographical/physical edifice of second-level schooling in this country does not particularly lend itself to such systems. These systems are used mostly in larger third level institutions with student bodies often widely scattered and opportunities for communication often restricted by the scale of the educational operation. Second level education is generally of a smaller, more intimate scale, with greater opportunities for communication between students and teachers making the enhanced communications facilities somewhat superfluous.

Validation Group Meeting via Videoconferencing

While supervising Chris' masters research enquiry [WWW7] [DVD1]. I also supervised three other teacher-researchers, Fionnuala Flanagan, Mairéad Ryan and Bernie Tobin. Each was carrying out research into his/her own educational practice. In order to give them the opportunity to make their research public, I arranged a validation meeting through a videoconferencing link up with Dr. Jack Whitehead of the University of Bath. I believed that it was useful to bring in an international expert in action research who would listen and respond to their enquiries and provide constructive feedback on their research. This represented part of my own endeavour to live my values of collaboration and dialogue in the learning process. As for participants, the videoconferencing link up further challenged them to consider the data that they needed in order to present evidence that they had improved student learning. I believed that this would help them in presenting their final dissertation.

The following extract is the dialogue between Chris and Jack Whitehead during the videoconferencing link up: 'Chrisvideoconf' **(Video 4: DVD 2)** and 'Jackvideoconf' (**Video 5: DVD 2**).

Chris: My question is how a course management system (Blackboard) might improve the educational experience of students in an all girl's science class. The research that I am doing is running parallel to my own traditional class. I put a course online and tried to encourage the girls to use the different communication features of the system. I could not oblige them to use it as some do not have internet access at home. I want to determine if there is an improvement in the educational experience of

students. I have gathered data such as my own diary, detailed surveys, sample of work from their use of online system, and interviews.

Jack: What I would advise you to do is to focus on the nature of your own learning in this process. It is highly innovative, almost no one really knows how to use the communication techniques on the web to stimulate learning. You have established a forum, you have encouraged students to participate in the forum. You have already got data to show that you have achieved that participation. As you are reflecting on the issue of learning in relation to the students, bring that into your account of your learning of what it might be to strengthen this enquiry over time. I would not be disappointed that you do not have evidence of student learning at this point. The fact that you have been learning how this innovation can be established and work on how you could encourage the pupils to develop it in relation to their learning would be certainly as far as you could go with this current enquiry. You can now reflect on your own learning in relation to students, and bring this into an account of your own learning.

Chris: One thing I did not mention is I have been going through a cyclical process of action research. I have been trying to encourage the students to use the system but they did not show any enthusiasm. I realised that I may have to extend the learning environment beyond the school. Margaret put me in contact with Odilla Finlayson, a lecturer in Chemical Sciences in DCU, who is very interested in PBL. She came out to the school and did a PBL lesson with the students. She suggested I might try introducing it to the school. We organised a second level third level link up and students. She did a PBL session and students replied to her via Blackboard. I did

learn that if we want to use this I might have learned that I will have to extend the learning community. Ironically the only learning I can show is during the PBL session and the link up with third level. I have now learned that we would need to extend the online learning environment beyond the school to make use of such an online learning system such as Blackboard.

Jack: This is perhaps the most significant part of your enquiry. The fact that you have negotiated with another partner in the university and gained some ideas and then carried them out and brought your own learning forward. This is probably the most crucial part of the enquiry. The work with the students in comparison to your own learning, in working with partners, including suggestion and imagining possibilities through the action research process is the most significant contribution you are making through the enquiry.

Chris: It is ironic that the only place where there is evidence of learning is when the PBL was introduced by outsiders. PBL was nothing to do with my initial enquiry.

Jack: It is vital to acknowledge the importance of unanticipated outcomes in your enquiry. This is part of the creativity and originality of the enquiry. This is part of the exciting developments of new possibilities that you have taken up and engaged with and shown that you have integrated into your own practice. You have evidence of your own action research process and your own learning.

My reflections on Chris' learning (MF)

Thus Jack Whitehead provided a steer for Chris through this dialogue. His chief contribution was encouragement, support and reassurance based on his experience of iterative, cyclical, action research processes and their eventual outcomes. His indicative advice avoided prescriptive intervention that might have appeared to transfer ownership of the enquiry from supervisee to supervisor. This helped Chris to reflect on his own learning in the research enquiry. It also helped him to consider the data he had collected and determine whether he could show evidence of improvement in student learning. This was to be the focus of the next validation meeting between myself, Chris, Bernie, Mairéad and Fionnuala.

Peer Validation Meetings: providing opportunities for participants to work collaboratively

During the supervision period, I organised group validation meetings in order to encourage each participant to discuss his/her research and to provide evidence of how they were attempting to improve their own practice. The purpose of this validation was to give participants the opportunity to present evidence of their own learning and influence on the learning of others, through a peer validation meeting. With the permission of all, I videotaped this validation meeting.

Validation meeting, June 2002. From left: Chris Garvey, Bernie Tobin, Mairéad Ryan, Fionnula Flanagan and Margaret Farren
Photos 7.1

In guiding the deliberations of this peer validation meeting, I kept in mind the general aim of developing each participant's living educational theories, having regard also to Habermas' insistence on social validity. Habermas contends that validation entails ensuring that accounts of practitioner learning are comprehensible, that sufficient evidence is provided to justify any assertions, that the background of the account is made explicit, and that the accounts are authentic in that the writer shows over time and in interaction that his/her claims to be committed are turned into reality (Habermas, 1976).

It his book 'Communication and the Evolution of Society', Habermas (1976) states that "anyone acting communicatively must, in performing any speech action, raise universal validity claims and suppose that they can be vindicated (or redeemed).

Insofar as he wants to participate in a process of reaching and understanding, he cannot avoid raising the following – and indeed precisely the following – validity claims".

He claims to be:

- *Uttering* something understandably;
- Giving [the hearer] *something* to understand;
- Making *himself* thereby understandable; and
- Coming to an understanding *with another person.*

(Habermas, 1976, p. 2).

Before the validation meeting, I asked teacher-researchers each to relate their presentations to the following questions. At the validation meeting, each teacher had 45 minutes to present his/her research within the framework of the following questions;

1 Are the descriptions and explanations of the teacher-researcher's learning comprehensible?
2 Is there sufficient evidence to justify the claims being made?
3 Are the values that constitute the enquiry as 'educational' clearly revealed and justified?
4 Is there evidence of the teacher-researcher's educational influence on the learning of others?

The 'web of betweenness'(O' Donohue, 2003) in the validation meeting is characterized by a process of democratic evaluation where the unforced presumption

of reasonable response holds sway in the conversation. '*Validatevalues*' **(Video 6: DVD 2)** is meant to convey the relational dynamic of the various contributions in the validation discourse, i.e. the web of betweenness as well as the engaged and appreciative responses of each individual to the others' contributions. The pedagogy of the unique is characterized in the recognition that each individual has a particular and different constellation of values that motivates his/her enquiry, as well as being situated in a distinctive context within which the enquiry develops '*Validatear*' **(Video 7: DVD 2)** was taken at the end of the validation meeting, Chris asked for clarification on the action research cycles. The presence of the other participants helped Chris to see how his learning could relate to the action research cycles. The explosion of laughter, at the end of the meeting, reflected Chris' acceptance of belonging to an action research community and the quality of empathy binding the community together. I believe that empathy among participants and between them and the teacher-educator is worth striving for.

Each of the participants evoked Winter's six criteria of rigour in their educational enquiry in order to help them to articulate the educational significance of their work and to demonstrate the reliability of every aspect of their research.

I asked Chris for his comments on this chapter. The following is an extract from his email response. I modified my original text in the light of Chris' feedback.

Chris's evaluation of his learning

From: *"Chris Garvey" <chrisgarvey@eircom.net>*

To: *"Margaret Farren" <Margaret.Farren@dcu.ie>*

Sent: *Wed, 14 Jul 2004 09:05:02 +0100*

Hi Margaret,

I've just finished reading the chapter. Your perceptions are mostly similar to my own, however, there is one instance where I would not be inclined to agree with you. You state that at the meeting of 14th April 2002 I was certain that online learning technologies would not be appropriate in the context of secondary schools in Ireland. I don't recall being that despondent about the technology. I certainly was sceptical about its possibilities and was downbeat about the direction my research was going but I think that I was also optimistic about the technology if employed in the correct manner. The "correct manner" at the time had, however, eluded me. Apart from that minor point I would agree with your perceptions of my action research during those months. They are an accurate account of how the 'living theory' enquiry unfolded

Initially I was somewhat doubtful of the benefits of qualitative research in general and action research in particular. Due to my science background I was uncomfortable and unfamiliar with this kind of research probably because my past research experiences had been of a more quantitative nature. Looking back on the process I consider it to have been a great opportunity to engage in and apply a new approach and methodology, some aspect of which I have carried through to my

professional life. Of particular value were the collaborative and consultative elements of the study. The video conferencing and peer validation meetings were worthwhile and meaningful and I found them extremely useful. They brought home to me the necessity to engage constantly in critical reflection and dialogue, not only in educational research itself but also within all areas of my educational practice.

Take care and best of luck.

Chris

Conclusion

In this chapter I have traced my own learning as a supervisor of teachers carrying out practice-based research and, where appropriate, introducing them to the action research methodology and the idea of developing a 'living education theory'. I have highlighted debates round the acceptability of action research methodologies at DCU and I have shown the benefits of action research in practice. I hope that I have demonstrated in my report on these enquiries how I hold myself accountable in relation to my values and my educational influence on the learning of those that I engaged with in the process of developing their own pedagogies through the use of a 'living educational theory' approach. Through the supervision process, I clarified my values of collaboration and dialogue and I also showed the meanings of my own embodied values through use of video clips. These values were transformed into living epistemological standards of judgement of my practice. The use of ICT was not central to what happened in these enquiries. But at all points it offered challenges and opportunities. ICT encouraged participants to radically re-appraise their practice. Its meshing or failure to mesh with classroom activities and expectations offered measurable criteria of the success or otherwise of ICT, while of course leaving open

the question of its efficacy as an aid to learning. I have shown how I have been able to support participants in their learning. Finally, I briefly explored the social dimensions of the learning process, again in the context of what ICT had to offer.

Chapter Eight

Online Dialogues with Participants on the Collaborative Online Learning Environments Module

Introduction

The purpose of this chapter is to explore the potentiality, limitations and possible pitfalls of moving from an online learning environment with predominating teacher/student interchange to an online learning environment involving student learners in a much wider range of dialogues with members of their peer group and other sources. This new phase in my research enquiry more or less coincided with a change in my academic location and of the teaching programme that was the main source of my practice-based research. In September 2002 I moved from the School of Computer Applications DCU to the School of Education Studies DCU. The M.Sc. in Computer Applications for Education was no longer offered in the School of Computer Applications. I believed that it was still important to offer such a programme. In moving to Education Studies, I set about creating a new Masters strand in ICT in Education for grafting onto the existing M.Sc. in Education and Training Management programme. The latter programme, like the M.Sc. programme in the School of Computer Applications, was part-time and ran over a two-year period. It offered a Leadership strand only. I realised that while the new ICT strand needed its own focus, it also had to integrate into the existing Masters structure. The new ICT in Education strand was warmly welcomed and accredited by the Academic Council of DCU in 2002. I succeeded in transferring the three Masters modules, (*Interactive Multimedia and Design, Computer Applications in Education* and

Network Information Management) that I had formerly taught, to the new Education Studies programme. I subsequently renamed the module titles. *Interactive Multimedia and Design* became *Educational Development of Multimedia*, *Computer Applications in Education* became *Emerging Pedagogies* and *Network Information Management* became *Collaborative Online Learning Environments*. This reflected the educational direction I intended to take in the ICT Masters in Education programme.

Below, I set out a chart that serves to illustrate the modules that I taught on the Masters in Education and Training (ICT) in Education Studies, DCU.

Teaching Context

Date	**Department**	**Programme Title**
2003	Education Studies.	M.Sc. ICT in Education and Training Management (ICT)

Modules Taught

Educational Applications of Multimedia
Emerging Pedagogies
Collaborative Online Learning Environments

Duration of each modules: **12 weeks**

Programme Participants: Teachers from primary, post-primary and further education. Trainers from industy.

Table 8.1

The Masters programme was now in a new setting within the Education Studies Department. During the following modules, *Educational Applications of Multimedia*

and *Emerging Pedagogies*, the participants had the opportunity to develop multimedia and web based artefacts for use in their teaching.

The focus of the two enquires in this chapter is the *Collaborative Online Learning Environments* module that took place in semester one, year two of 2003. In chapter six, I demonstrated how I made use of online learning journal writing that provided participants with opportunities to document their own learning and educational development through the use of WebCT. I noted that, at the end of the module, I was aware that the online dialogue had taken place chiefly between myself and each participant rather than with the group as a whole and there had been minimal student/student dialogue. In other words, the participants had engaged with me rather than with one another.

I was determined that I would endeavour to bring about a more collaborative approach during the *Collaborative Online Learning Environments* module, hence the name change from *Network Information Management* to *Collaborative Online Learning Environments.* Much of the subject matter of the *Collaborative Online Learning Environments* module was the same as the *Network Information Management* module. It involved participants in building on their learning from the Educational Development of Multimedia and Emerging Pedagogies modules. There was a shift, however, toward the use of online learning environments (Appendix C).

The project brief for *Collaborative Online Learning Environments* module involved the participants in designing and developing an online learning environment for use in their own context.

Enquiry One: Collaborative social approach with ICT

At the start of the *Collaborative Online Learning Environments* module 2003, I suggested to the group that we would make use of the online learning environment to document concerns in practice and work through an action research process. I explained that I had used WebCT online learning environment to document learning in the programme in the past, but that dialogue had mainly been between myself and participants. I showed, through examples, how I had made use of WebCT during the *Network Information Management* module in 2001. I suggested that we could try to use the online learning environment in a more collaborative way. I explained to the group that the online learning journals were not assessed. But my past experience had led me to believe that participants found it useful to document their learning throughout the course of the 12 week module and that this helped them in the final write up of assignments. We discussed how we could make use of online learning in a more collaborative way involving shared understanding and how we could bring about a more collaborative approach in general into our work contexts.

The purpose of the following enquiry is to explore some of the social dimensions of participant learning during the *Collaborative Online Learning Environments* module between October and December 2003. The image of the threaded discussion (Figure 8.1) from WebCT shows, in visual form, real postings by members of the group.

Although each person was carrying out his/her individual self-studies, each was contributing to the 'web of betweenness'. Zander & Zander (2000) claim that the 'We' story defines the human being in a specific way. "*It points to a relationship rather than to individuals, to communication patterns, gestures, and movement rather than to discrete objects and identities. It attests to the 'in-between".*

After a face-to-face class discussion, Darragh (participant) initiated a new discussion forum on WebCT called 'Politics'. His grappling with his concern and our discussions with him online, reflects my value of the significance of the 'web of betweenness' in my pedagogy of the unique. Pedagogy of the unique is a standard of judgment that recognises the importance of singularity and a 'web of betweenness' is a standard that recognises the relational dynamic of human existence.

From the diagram (Figure 8.1) entitled **Politics**, it is evident that problems were not shared solely between myself and each participant, as in 2001, but, in a more collaborative way, among participants themselves. The threaded dialogues reflect this more social and collaborative approach which was beginning to emerge. It is evident that there was more a sense of 'betweenness' in the forum as participants responded to each other's online journal postings. The fostering of such 'webs of betweenness' is an aspiration that for some time had lain at the back of my teaching mind. My commitment to this endeavour reflects my belief that learning is a social interactive process involving members of the class as a community of sharing participants who can develop new understandings through dialogue. My wish to create an environment where learning might be a social process rather than the absorption by students of pre-set content signified the living of my educational values in practice. Bohm's (1996) view on 'Dialogue' is relevant. In defining dialogue, Bohm refers to the Greek word *dialogos*. Logos means 'the word' and *dia* means 'through' - it doesn't mean 'two'. A dialogue can be among any number of people not just two (Bohm, 1996, p. 6). I believe that dialogue is fundamental to the learning process. It is a way of opening up to questions and assumptions rather than accepting ready-made solutions. It is about

mutual participation. In dialogues, I believe that we attempt to develop our individual educational practices in collaboration with others. Through the use of ICT, in this case, a collaborative online learning environment, I believe that we can activate wider dialogue and for those committed to learning as a social project, get closer to the meanings of our embodied values.

Winter (2003) points to collaboration and cooperation as necessary in order to heal the "*distorted or inadequate communication processes that so often limit the effectiveness of professional situations and roles*" (Winter, 2003, p.144). In the following dialogues, I hope to show how I have been able to help in some way to address his question, "*How do we learn to converse "harmoniously" and in a climate of "mutual helpfulness" when we live so much of our lives in settings where competition and conflict are normal and good arguments are frequently ignored*?'

In the first posting, Darragh grapples with how he can achieve a collaborative approach within a competitive culture. He articulates the perceived struggle between the financial and educational goals within the company that he works. Through online dialogue, we are able to help him to move from this state to an understanding that research is not about hiding conflict, but that it is about how to work through tensions and to resolve them, in a limited way, in one's own practice. He articulates his value of the wish to offer people "the opportunity to be involved.....to defend and work the process for myself and those who want to participate in it, through provision of evidence etc." Trudy Corrigan, offers support by referring to literature in this context and Realtan Ní Leannain (a previous participant of M.Sc. programme) observes that his thinking may relate to Wenger's idea of a 'community of practice' that was

originally developed in a training context. This is an area that Darragh decided to explore further in his research.

Threaded Discussion on WebCT (Politics 168)

- 168. Darragh Christopher Patrick Power (powerd3) (Sat Nov 22, 2003 14:20)
- 171. Fionnbarra Seamus Hallissey (hallisf2) (Sat Nov 22, 2003 15:36)
- 174. Darragh Christopher Patrick Power (powerd3) (Mon Nov 24, 2003 09:15)
- 176. Trudy Corrigan (corrigt3) (Mon Nov 24, 2003 10:26)
- 180. Margaret Farren (es572) (Mon Nov 24, 2003 12:26)
- 185. Darragh Christopher Patrick Power (powerd3) (Mon Nov 24, 2003 14:57)
- 191. Margaret Farren (es572) (Mon Nov 24, 2003 16:59)
- 192. Darragh Christopher Patrick Power (powerd3) (Tue Nov 25, 2003 08:56)
- 194. Trudy Corrigan (corrigt3) (Tue Nov 25, 2003 11:30)
- 195. Darragh Christopher Patrick Power (powerd3) (Tue Nov 25, 2003 12:23)
- 205. Realtan nileannain (leannai_n) (Wed Nov 26, 2003 18:18)

Figure 8.1

For the purpose of clarity, I provide a colour reference code to represent the various speakers in the following dialogues:

Colour Reference Code

Darragh's response in blue
Fionbarra's response in green
Margaret' response in dark red
Trudy's response in violet
Realtan's response in sea green
My reflections on the learning process in **black**

Posted by Darragh Power

Sat Nov 22, 2003 14:20

Hi All,

Following on my polemic this morning, the aspect that concerns me in relation to the combination of a collaborative social approach with the use of ICT is the politics of the way this approach is perceived. My personal values as a practitioner of Training and Development are part of what Lincoln and Guba would call the post-positivist paradigm. i.e. everyone has a contribution to make and collaboratively we achieve more than we could competitively.....My role is an informal one in that I am a training mentor - there is no job description for this and as a result I am always fighting the battle for more space in which to allow development activities to emerge. Positive outcomes such as a colleague becoming more confident in task needs to be explained in the language of, we are reducing error in the output generated by the team. There are two differing languages at work here. The financial operational one and the educational development one. I sometimes feel the need for a translator!!!!

This is bringing me towards the question how do we as a group achieve a collaborative approach, valuing diversity and differing opinions, while collaborating on differing goals, and how can I affect this through my practice.

Its all very confusing!!!

Darragh

Posted by Fionnbarra Hallissey

Sat Nov 22, 2003 15:36

Hi Daragh

Daragh said "There are two differing languages at work here. The financial operational one and the educational development one. I sometimes feel the need for a translator!!!!"

I'll translate for you (for free on this occasion only): one language is neo-liberalist (financial return, consumers, the economy, profit etc.) and the other is social democratic (citizens and citizenship, society, rights, obligations etc.). Noam Chomsky wrote a brilliant essay on this called 'Democracy and education'. The thing that drives me bananas is that people don't even recognise there is a debate anymore.

Good bye

Fionbarra

Posted by Darragh Power

Mon Nov 24, 2003 09:15

Hi Fionbarra

Thanks for the response that echoes exactly what is going on much of the time in my workplace, the conflict between those in power "Manufacturing Consent" to borrow a Chomsky phrase, and generating a situation where there is not even a debate to be had, the parameters for discussion are already set. Another great example of this is Necessary Illusions: Thought Control in a Democratic Society which is another piece of work by Chomsky. For me, to employ a collaborative approach in order to improve a situation, not being in a managerial position, can mean I am viewed as a threat, a radical, almost as a trade unionist, and this is not my intention, as my intention is to get everyone collaborating.

To rephrase it in my own language the question I have is that this is a real situation, with real people, in positions of real power, how can I effect change in this environment to benefit everyone, even those who do not subscribe to the belief that a collaborative approach can be effective. I think this is where action research struggles in its "emancipatory" intent. There is a debate in action research about "victory narratives" (See McNiff and Whitehead 2000 action research in Organisations for the reference) - IE – Action Researchers can sometimes say This is what I do in my practice, and hide the struggle they have gone through and in particular the struggle with power (not me!!).

At this stage I am taking it as a gimme that my position is one where I am in conflict with the values of the organisation, the cultural hegemony, the naturalised values of

the organisation, and the challenge is how I deal with it to improve it. I think Action Research leaving it all up to the practitioner, can serve as an isolating methodology in this case, unless collaboration with people holding conflicting values can be developed.

Thanks for the comment, I think the point about neo-liberal individualism versus social democratic values is well made.

Darragh

Posted by Trudy Corrigan

Mon Nov 24, 2003 10:26

Darragh,

I will use my own previous experience as an example to hopefully help you with your current situation.

I have through my studies on the M.Sc. programme and my experience of teaching adults within the VEC found that the collaborative approach is best practice since it brings together a diversity of experience,talents,ability and expertise.

Then I found myself in a work environment which did not subscribe to this theory at organisational level i.e. each staff member had their own role to play but not in a collaborative way.

It was a very difficult lesson for me to learn at a personal level but a hugely beneficial one that you may not be able to change an organisation in its thinking on this but you

can change the environment around you i.e. being collaborative with your fellow colleagues and other staff, students etc. Sometimes the greatest lesson to be learned for "reflective practitioners" is that you cannot change an organisation but you can provide them with an opportunity to reflect on your practice of collaboration.

This collaborative approach has been reaffirmed for me in this master's programme but I also have a better understanding of what I can and cannot change within an organisation/school environment. Hope this is of some help.

Trudy

My reflections on the learning process (MF)

Trudy's response to Darragh shows how a member of the group is prepared to take an initiative to help him resolve his problem and reflects the interactive nature of the learning process that I want to promote.

Posted by Margaret Farren

Mon Nov 24, 2003 12:26

Hi All,

You know, after the Saturday session, I thought... I must set up a learning forum. Darragh, Fionbarra and Trudy, I am delighted to see that you have already continued the dialogue. Now there is collaboration!! Just responding to some of your points.

Darragh - You say: "There is a debate in action research about "victory narratives" (See McNiff and Whitehead 2000 action research in Organisations for the reference) - i.e. - Action Researchers can sometimes say - This is what I do in my practice, and

hide the struggle they have gone through and in particular the struggle with power (not me!!)".

On Thursday evening last, Jean Mc Niff did point to the need for the researcher to be truthful. This would answer your question re: hiding the struggle. Certainly within a 'living educational theory' approach, you cannot gloss over the conflicts. These are integral to the approach and central to the creation of your own 'living educational theory'. Gadotti points out that dialogue cannot exclude conflict. Indeed conflict is at the heart of all pedagogy. "There is always conflict and rupture with something, with, prejudices, habits, types of behaviours and the like. It is only in taking on the risk that we become educators." (Will send the Gadotti reference).

Darragh you says: "I think Action Research leaving it all up to the practitioner, can serve as an isolating methodology in this case, unless collaboration with people holding conflicting values can be developed."

My own PhD research uses a 'living educational theory' approach and it does include dialogue with conflicting values. I want to bring to the fore the idea of a 'pedagogy of the unique', to highlight the differences and not just the equality. I do think that it is up to the individual in the end. And yet, how do we hold to our own values while engaging with people who hold conflicting values? How do we engage with the other person and not undermine the values they subscribe to?
To do this comes close to a value called empathy or what I am coming close to understanding in my own educational practice as an empathetic connectivity. And yet we are faced with - which knowledge forms part of the 'cultural arbitrary' (Bordieu) or

the cultural preference of the dominant group. Trudy mentioned the importance of changing your own small space. I think Gramsci or Gadotti (will check out!) also recognised that it was the small changes that made the difference.

Darragh - your challenge may be one of 'creative compliance' (John Elliot), how do you engage with the values of the company in a way that still allows you to realise your own educational values and goals within the company. You have made a start and now for the dialogue.

Margaret

Posted by Darragh ower

Mon Nov 24, 2003 14:57

Margaret said: "There is always conflict and rupture with something, with, prejudices, habits, types of behaviours and the like. It is only in taking on the risk that we become educators." (Gadotti)

Herein lies the crux of the issue for me, I have a recognition about the parameters of my own practice, where the acceptable boundaries of the discourse I can engage in are drawn. I absolutely agree with Trudy in the sense of it being a development of a collaborative approach in my own practice I can effect change in my immediate surroundings. This is a perfectly reasonable expectation and a reasonable 'risk' to take.

As a person, a living "I" to borrow Whiteheads term, I can influence and effect the situation I am in for all. I agree with the principle of Elliots of 'creative compliance'

and am trying in my practice to move the debate away from an us vs them conflict perspective, where everyone guards their territory fiercely.....

As I do not have an official role as a trainer, but rather the job of a mentor, with no job description, in addition to my operational workload, my own practice as an educator / trainer (though not as a person) is limited in terms of resources and time, and also in terms of credibility. I think the idea of 'rupturing habits' is an interesting one, because it may be a case that I have to rock the boat.... ....Thanks for the responses!!

Darragh

Posted by Margaret Farren

Mon Nov 24, 2003 16:59

Hi Daragh,

You say... "As a person, a living "I" to borrow Whiteheads term, I can influence and effect the situation I am in for all. I agree with the principle of Elliotts of 'creative compliance' and am trying in my practice to move the debate away from an us vs them conflict perspective, where everyone guards their territory fiercely. This siege mentality to me reflects an underlying insecurity or fear factor, which can be eased through collaboration, through not having to always be in control, through not always having to be the boss etc." Darragh, as a living "I", researching your own practice as you relate to others in the workplace, what type of question do you intend to ask - "How can I improve??" Margaret

Posted by Darragh Power

Tue Nov 25, 2003 08:56

QUESTION IS: How can I improve my practice through collaboration and offer the opportunity (not a forced situation - no coercion involved - its an offer) to all the people I work with to contribute to the collaboration process to benefit everyone in the situation?

In some ways I think I've answered my own question now. All I can do in terms of collaboration is offer people the opportunity to be involved and if they choose to be hostile to it that's a valid choice, my responsibility is to defend and work the process for myself and those who want to participate in it, through provision of evidence, showing development etc. Through gathering evidence, showing influence etc, the methodology may gain more credibility, and this may in itself change the situation towards a more collaborative working environment.

Darragh

Posted by Trudy Corrigan

Tue Nov 25, 2003 08:56

Darragh,

I have just been reading "Action Research in Ireland", introduction by Jean Mc Niff page 21 and I found a quote which related to my last email to you so I thought I would share it with you. This is also a quote for your thesis database!!

Jean Mc Niff says "I love Iris Murdoch's observation that Jesus' commandment "Be ye therefore perfect" could be interpreted as "Be ye therefore slightly improved"

(Murdoch, 1985:62). This gives me hope, stuck as I am with my great tendency for making mistakes. Working towards slight improvement is enough for today."

I think this is central to Action Research and indeed your collaborative efforts. You are taking some personal risks i.e. will it work/will it not work but if it makes a "slight improvement" then you have achieved a lot. I hope this is of some help.
Trudy

Posted by Darragh Power

Tue Nov 25, 2003 12:23

Thanks Trudy - that is an interesting angle to action research - evolution vs revolution - or creative compliance - I think what that hangs on in a commercial context is what slight or small improvements are, who agrees that its an improvement, what proof exists for such an improvement, is it a lasting improvement or a temporary one and how do you measure it. The personal approach of the post positivist paradigm is great for peer review, but justifying this to the technical rationalist epistemology (Schons terms) of an organisation is very difficult, just to get things done from day-to-day with operational demands on time is a task in itself, without adding to it - See Zubber-Skerrit on the trade off of resources. I guess it comes back to the Action Research shop and picking up an approach that works. Darragh

Posted by Realtan Nileannain

Wed Nov 26, 2003 18:18

I have just read through this thread.... I think that collaborative work amongst educators is one area of education where Wenger's 'Community of Practice' works!

CoP is the premise first mooted in the business world that collaboration and problem-solving on an informal or formal level amongst members of a common interest group generally leads to a sum of all the members put together, in terms of creativity and productivity. Anyone wants more details, I'll post them.

Realtan

Reflections on the learning process (MF)

In this enquiry, I show how a collaborative learning environment emerged through practice. The collaborative online learning dialogues, as documented in the enquiry, complement the learning process that took place in the classroom. As the process evolved it became clear how the learning environment supported participants to articulate and reflect upon their concerns and grapple with them in practice. It also shows how it allowed participants, through online discussion, to move their learning forward. My theory of learning emerges as one that involves constructing and developing understanding through interactions with others and that learning involves reflection and dialogue. The learning environment that I value in my teaching involves creating the necessary space and appropriate learning environment that allows participants to build knowledge together through appropriate face-to-face and online learning. Literature is seen as a way of enabling participants to relate their work to that of a wider framework of reference and to deepen their understandings. In this enquiry practitioners interact more actively with each other in what I refer to as a 'web of betweenness'. The online learning dialogues show the different contributions and the engaged and appreciative responses of each individual to the others' contribution. (Project work developed by participants for the Collaborative Online Learning Environments module 2003 – [WWW8] [DVD1]).

Validation meeting March 2004. From left: Miriam Fitzpatrick, Fionnbarra Hallissey, Margaret Farren, Enda Lydon, Darragh Power, Realtan Ni Leannain, Aoife O'Brien, Fiona Williams and Claire Thomas.

Photo 8.2

Darragh Power's evaluation of the teaching and learning process in the context of the Masters degree in ICT in Education and Training programme

Subsequent to our discussions, Darragh joined an online discussion forum in order to learn more about a 'living educational theory' approach to research. Jack Whitehead also participated in this forum. The following comments emerged in the context of their discussion with respect to Darragh's experience of my influence, as an educator, on his learning in the context of the M.Sc. in ICT in Education and Training Management. Darragh sent a copy of his comments to me on Tuesday 3rd, February, 2004. I include it here with a view to presenting his perspective on my influence in his learning. It serves to validate claims that I have made with respect to influencing the learning of others.

From:	"Power, Darragh" <Darragh.Power@irl.xerox.com>
To:	"'Jack Whitehead'" <A.J.Whitehead@bath.ac.uk>
Cc:	Margaret.Farren@dcu.ie
Subject:	RE: one example
Sent:	Tue, 3 Feb 2004 10:37:33 -0000

I would say there are many factors involved in Margaret's influence on my own learning, and that of the group.

Background

Initially on starting the M.Sc. programme, I was unsure whether to specialise in the use of ICT or do the Leadership stream. One of the factors influencing my decision was the fact that Margaret asked us what we wanted to learn, and that a programme would be constructed around what we felt would be useful as a group. This was pretty unique in my experience of learning, and was a big factor in me taking the ICT route. It's a nice thing to do to ask people what they are interested in, and need and meeting them on their terms, which I think would reflect the idea of a 'pedagogy of the unique.'

We are from diverse backgrounds - I work in training in a large multi-national, we have several teachers (primary, secondary and third level), a professional footballer and we all have used different technologies. I have tended to use HTML, Websites, and Webquests, while some of the others have used Digital Video, Stage Cast, Macromedia Flash, Hyperstudio are other authoring progammes used by people. In other words we have diverse interests and are responsible for different types of learners. We also have different technical requirements but I feel that my learning needs are much better addressed than if the course was a traditional didactic model,

and this would be a general consensus.

I don't think this diversity would be catered for without the approach of a 'pedagogy of the unique'. Certainly any one of the technical resources could be a semester long course in itself, before any of the pedagogical concerns would be covered. This is particularly true given our different practice contexts. This experience of being met on our terms as learners has been reinforced throughout the course where if we ask for something to be covered it is covered, which brings me onto another influence.

Specialists / Former students

Technical knowledge is becoming increasingly specialist and throughout the course Margaret has brought in specialists in various areas, Ken Maher on HTML, Fionnuala Flanagan on Flash, Cathal Gurrin on Databases, and former students of the course, such as Realtan ni Leanain, Chris Garvey and Denice Byrne, and often there have been several of these people present at lectures. This co-operative approach is on which combines technical specialists with the practical applications by other learners many of whom are similarly employed as teachers etc. This approach is on which caters for my own unique circumstances and learning styles, and the requirements of my practice context. The other members of the class would echo these sentiments.

Ongoing Support

These specialists are available not merely in a lecturing capacity but also as a support through out the course for those experiencing technical, political or theoretical difficulties, which we all have found useful. The WebCT environment

shows evidence of this with James Finnegan giving myself and Barra Hallissey a few thoughts, and Realtan Ni Leannain among others, contributing to the debate and helping out with resources like Etienne Wenger's idea of a community of practice which I am going to do some research on in the coming months.

Also on WebCT, Margaret's availability and contributions throughout the programme are evidence of the continual involvement in supporting the process of individual and group learning, which is a very evident personal commitment to meeting learners where we are. Further evidence of a 'pedagogy of the unique' on WebCT would be Realtan's contribution to Fiona Williams Webquest on Northern Ireland, where the children in Fiona's religion class got to ask Realtan about life in the north, which grounded the theory of the Webquest in the real world. In other words, through availing of specialists in various fields, Margaret allowed us to work on our own different projects at the same time, and have the support we need. This group approach is an influence on me, which I would say is a 'pedagogy of the unique', supporting individuals where we are in our learning.

Class culture

This, from a personal perspective, I value most of all. As a group we tend to help each other out, and work with each other rather than feeling we are in a competitive environment which has often happened in my educational experience - this might tie into the spirit of Ubuntu which is a concept I resonate very strongly with (I previously did an MA in Culture and Colonialism in UCG and have studied post-colonial theory

etc as a result - though my practice of what I know varies!!!). One of the values I cherish most as a human being is the idea that I am always in relationship, and being in relationship to others, myself, life is better if I share and collaborate, rather than be competitive as competitiveness closes off rather than opens up avenues. I have learned a lot as a direct result of conversations with my classmates and lecturers which have hugely influenced my learning and approach to learning, particularly in relation to opening up new worlds of technical resources, theories and approaches to me.

I think this collaborative and open approach is largely due to Margaret in facilitating each of us talking about our own work, and being given the space to discuss our ideas, and discuss with each other how we can improve on what we are doing. I would say this is different from other academic experiences I've had in that the view of knowledge underlying this approach is that we construct our meanings, and knowledge, and that it doesn't just appear in a book. In other words the classroom is a pretty democratic place, characterised by open discussion. I think there are two influences here.

***First** - the classroom is a place of learning facilitation, where everyone facilitates everyone else's learning - which reflects a view of knowledge and power that I think is very helpful in terms of a pedagogy of the unique. I feel that my unique perspective is heard, and also the unique perspectives of every one within the group are heard and developed. The implication being that everyone's knowledge is valued.*

***Second** - the success of any facilitation depends on the facilitator and Margaret is*

excellent in this regard, in giving everyone the opportunity to express their learning, in listening to what is going on and in suggesting alternative perspectives, resources and pedagogical considerations.

A major factor in this facilitation is Margaret's clarity on her own values as an educator, and the trust that this clarity establishes, which is an influence for me in my learning to clarify my own educational values. This group facilitation is also supported on an individual basis by Margaret, Realtan, Cathal etc discussing with each of us our ideas, and work, throughout the course. This ongoing support process and dialogic process is a major influence on my thinking of what I should be doing in my own practice in training and development.

I really enjoy the course and the general consensus is that we are very glad we chose the area of ICT as a specialty. I would have no hesitation in saying that this is largely due to Margaret's influence, and ongoing support, and encouragement, which we have said to Margaret on many occasions. Many of the resources I've used on the website are as a direct result of conversations with Margaret, such as reading Vygostky, Dewey, Polyani, Van Manen, Reigeluth, Bloom, Gagne, and yourselves, Jack and Paul etc. I think the biggest influence is Margaret's willingness to be inclusional, and think about what learners need first, and ask us for our own thoughts, and find the right solution for meeting our needs, and bring in assistance.

If you want a critical perspective, I would say that sometimes some people prefer a more directed and didactic style, and don't feel comfortable doing things themselves. Personally I think this is due to a lack of confidence, and a fear factor, as a result of

traditional educational models where you have to pass the exam first, and think about what your learning second, which was the case for me, in my educational experience up to now. I much prefer the way Margaret is doing things, and I find it creatively liberating. I've always felt constrained by the expectations of education, and passing exams, and have tended to limit what I've tried to do as a result. I would always be interested in other things on a course but would have definitely focus on what was being sought rather than what I wanted to learn.

Darragh Power

Enquiry Two: Reflecting on teaching through video

Fionnbarra Hallissey was a participant on the M.Sc. Education and Training Management (ICT). He had developed a video for the Emerging Pedagogies module assignment in the previous semester. He expressed an interest in continuing his research into the use of video in education during the *Collaborative Online Learning Environments* module (2003). His assignment involved him in videotaping his teaching, editing and compressing the video and finally uploading the video to a server. He then invited fellow class participants to evaluate the video through use of WebCT discussion forum. The following dialogues serve as an example of how Fionnbara makes use of the discussion forum to share his teaching and ask for comments and feedback from his peers.

For the purpose of clarity, I provide a colour reference code to represent the various speakers in the following dialogues:

Colour Reference Code

Fionbarra Hallissey **dark blue**
Jack Whitehead **seagreen**
Brendan Ryan **light blue**
Trudy Corrigan **violet**
Miriam Fitzpatrick **brown**
Margaret Farren **dark red**
My reflection on the learning process in **black**

Posted by Fionbarra Hallissey

Tue Dec 16, 2003 15:44

Hi Folks,

I hope to show my work in progress during Saturday's session. I videoed myself teaching and would like to share my reflections with you on my own practice and would welcome any thoughts you might have in relation to same. I've spoken to Margaret about this, and she told me she would be able to facilitate same. It would be absolutely wonderful if you could post your reflections onto this thread in WebCT, that would save time and allow time for reflection rather than ping ponging during the session and taking over everybody's time. The video links are available at the following URL's, accessible unfortunately only on DCU's intranet - you can look at them anywhere within DCU - don't forget you'll need headphones for the machine!

Regards

Fionbarra

My comments on the learning process (MF)

I replied to Fionbarra and asked if he could provide us some idea of what particular areas he wanted us to review/reflect on during his presentation. He posted the following response to the group.

Posted by Fionbarra Hallissey

Sat Dec 20, 2003 01:57

Hi Folks,

To lend a focus to the video presentation of my own work I decided to juxtapose a definition of teacher professionalism by Schön against the evidence of my own practice.

"The heart of professionalism is the capacity to exercise discretionary judgements in situations of unavoidable uncertainty." (Schön, 1983)

I don't wish to exclude any comments/reflections on anything that anybody in the group might find of interest. However I think Schön's definition serves as a useful starting point … presumably he was referring to teaching rather than driving a motor propelled vehicle!

My comments on the learning process (MF)

I invited Jack Whitehead to respond to Fionbarra's message. In the following example, Jack points to how technology can contribute to presenting the knowledge of professional educators.

Posted by Jack Whitehead

Mon Dec 22, 2003 14:25

The use of the video-clips together with the reflective commentary seems to me to mark a breakthrough in presenting the educational knowledge of professional educators.

It seems to me that Fionbarra has opened up the possibility of sharing our understandings of new living educational standards of judgement as we share our understandings of what counts as evidence in statements such as the following:

" The evidence of my own videoed practice demonstrates that teacher professionalism involves more than 'the capacity to make judgements in conditions of unavoidable uncertainty', though this capacity is not insignificant. The exercise of premeditated discretionary judgements is an important component of my own professionalism. The absence of premeditated judgement would create a degree of avoidable uncertainty that I would find unmanageable and intolerable."

Love Jack.

My comments on the learning process

Other members of the group responded to Fionbarra's videos. They could see a relationship between his work and their own work. They were also clarifying for themselves through dialogue how ICT could help inform them of what was happening

in their own educational practice. It is interesting to note that each of the following responses come from participants who work in different contexts from primary, secondary and adult education. Relating to Tullio Maranhao's (1991, p.236) idea on dialogue "*Dialogue is indispensable for reflection, for it is in the face of other's reaction that self-evaluates his utterances*".

Brendan Ryan is a post-primary school teacher and he made the following response to Fionbarra's video.

Posted by Brendan Ryan

Tue Dec 23, 2003 22:47

Fionbarra,

It's great that you decided to video yourself teaching in class. What a pity that there isn't more video observation available! I think video provides an excellent means for us, as teachers, to reflect on our practice - exactly what Schön looked for by "turning thought back on action". You can now reflect on, for example, why you decided to ask a particular question or why you intervened or did not intervene at a critical moment. I found it an interesting exercise myself last semester. I was interested in seeing how relaxed your students were with the video recording going on and how real learning seemed to be taking place. There are, of course, some differences between your class and (say) one of mine in so far as you are teaching adults who are well motivated and are in a smaller group setting. This allows for little or no curtailment of group interaction. Good luck with your own reflections on the videos.

Brendan

Trudy Corrigan, a teacher of a group of active-retired learners responds.

Posted by Trudy Corrigan

Mon Dec 29, 2003 00:47

Fionbarra,

Just to be absolutely accurate re Jack and Brendan's comments:

Jack said "the use of the video-clips together with the reflective commentary seems to me to mark a breakthrough in presenting the educational knowledge of professional educators."
Brendan stated "I think video provides an excellent means for us as teachers to reflect on our practice."

I feel that your video certainly provided me with an opportunity to reflect on my own practice and to seek out innovative possibilities i.e. "Can I provide a learning framework where the older students can work collaboratively with the younger students in the transferral of knowledge and skills?"

The breakthrough is that the video visually presents what a thousand words could not say i.e. "presenting the educational knowledge of professional educators."
Trudy

The following response is from Miriam Fitzpatrick, a primary school teacher.

Posted by Miriam Fitzpatrick (fitzpam8)

Tue Jan 06, 2004 19:06

Hi Fionbarra,

Her are some reflections on clip three;

1. The clips proved very interesting - both from a personal point of view in comparing aspects of your practice with mine and also your willingness to post them online is very brave and shows great potential for real reflection. I am very interested in the idea of the life cycle of a teacher in which teachers reach new levels of expertise throughout their career. It seems that you have reached a stage of being comfortable with your practice - one I aspire to reach soon hopefully.

I agree with Brendan when he talks about motivation and class size. Teaching a large class of six year olds contrasts significantly with your environment. I think motivation is primarily intrinsic - your adult learners appeared be highly motivated and co-operative and a lot of real learning seemed to be taking place.

2. With regards to Schon's 'unavoidable uncertainty', there are several unavoidable situations in your clip -the number of attendees as you pointed out and the seating arrangements. Perhaps in other environments, seating can be arranged in groups so that students have no choice but to interact. This may lead to a more artificial form of social interaction than the one you instigated.

3. The students seem to be learning a lot through social interaction and your timely intervention was very appropriate in the circumstances. By merely approaching the

student, your action led to her inclusion without embarrassment. In my situation, my pupils would be more vocal about who they would rather not sit beside! I think this type of approach particularly lends itself to adult learning where the learners can stay on task and enhance learning through discussion and dialogue. Having worked myself with adults, I found it a very effective approach. The fact that you withdrew to your seat with the students hardly noticing shows how you 'facilitated' the establishment of a learning situation effectively. However, the students were aware of your presence if they needed assistance.

A final thought that strikes me from your clip is the notion of lifelong learning - coming from 'Early Childhood' Education and looking at Trudy's situation where she works with an 'active retired' group, the cyclical nature of education is reinforced.

Hope this is of some help!

Happy New Year

Miriam

My reflections on the learning process (MF)

In my supervision of 'living educational theory' enquiries, I have referred participants to Winter's criteria of rigour as a way of showing rigour in their action research enquiries. In responding to Fionbarra's reflection on his classroom video, I ask him how he is going to invite his own students to comment on his practice. In the beginning, Fionbarra had a certain amount of reservation about sharing his reflection about the video with his students. However, in the following response, he is coming to see the importance of including the voice of the learner in the research.

Posted by Margaret Farren

Wed Dec 31, 2003 13:35

Fionbarra - Will you have the opportunity to invite and include responses from your own students? It would be interesting to hear their comments.

Winter (1989) defines six key principles in carrying out an action research study. Collaborative resource is one criteria - participants are seen as co-researchers in the enquiry. It includes the possibility of including different viewpoints.

I don't know if you will have the opportunity to share your own reflections with them?

Margaret

My reflections on the learning process (MF)

I do value the creativity and originality of each participant and I value their enquiring mind. While I support them, I also encourage them to show how they are producing valid evidence of their educational practice as they ask, research and answer the question; 'How do I improve my practice?' In the above dialogue, I ask Fionnbarra how he is going to validate the claims that he is making.

Posted by Fionbarra Hallissey

Wed Jan 14, 2004 14:05

I would like to convey my heartfelt gratitude to people who have taken the time and trouble to post to this subject thread. I realise this time and trouble has been taken at a time when a lot of us are under pressure with assignments etc.

Margaret suggested the following:

"Fionbarra - Will you have the opportunity to invite and include responses from your own students? It would be interesting to hear their comments.

Winter (1989) defines six key principles in carrying out an action research study. Collaborative resource is one criteria - participants are seen as co-researchers in the enquiry. It includes the possibility of including different viewpoints".

Readers will note from my response, I expressed some reservations about sharing my own reflections on my work with the students. I think Margaret is right that the voice of the learners shouldn't be absent from research. It wouldn't have been possible to conduct this project without their agreement and co-operation.

The compromise I arrived at was to show the student group the three video clips and ask them to commit their reflections in writing on two questions.

1. Is what is happening educationally beneficial in your view? Why?
2. Would you recommend any improvements or changes?

I organised the student group into three groups of three and asked each group to reflect on a different clip. I will post their reflections onto WebCT asap.

Regards

Fionbarra

My reflections on the learning process (MF)

In the above extract, Fionbarra shows a progression in his learning as he realises the importance of including the voices of his learners in the evaluation of his teaching. In these online dialogues, I have shown my own learning as I engage participants more fully and collaboratively in self-study of their educational practice. I have shown how I value the creativity and originality of mind, critical judgement, values and desire for enquiry learning on the part of participants, and support them to use ICT in a way that is meaningful for their practice; and enable them to construct their own narrative of their learning in relation to others. I understand education as being an holistic process involving various dimensions: cognitive, emotional, spiritual, aesthetic and social interaction. I asked Fionbarra for feedback on how participants supported his learning through WebCT. This reflects the value that I attach to dialogue and to examining how ICT can support ongoing dialogue.

Conclusions

This chapter seeks to show how I have attempted to develop a knowledge base of practice in collaboration with participants. In enquiry one, participants can be seen interacting more actively with one another in what I refer to as a 'web of betweenness'. In enquiry two, Fionnbarra can be seen to take the initiative by videotaping his practice and opening his teaching to critical appraisal by others. I believe that I have shown through my practice how I have developed the capacity of participants to engage in dialogue through the use of ICT and to accept increasing responsibility in developing their own practice-based research in collaboration with their peers. I hope that these documented accounts of the development of a new

approach to teaching practice can bring to life the strengths of a 'web of betweenness' and how it has supported my development of pedagogy of the unique.

Chapter Nine

Conclusion

My Research a voyage of discovery through changing scenes

I have referred at various points in my thesis to my educational career in terms of a voyage of discovery. This approach to research owes much to the idea of a 'living educational theory' that I have used as my guiding light. The idea of a voyage is also in many ways appropriate to the context in which my educational career has developed. Today, new technologies allow for new way of doing things. In the past, the syllabuses, even at university level, were slow to change, and the time honoured tradition of the lecture and tutorial dated back almost to mediaeval times. I have journeyed through much more interesting times than many of my predecessors. Higher Education, as I try to explain in chapter two, has been transformed in my lifetime, from an elite preserve to a system of education for the masses. Recently, higher education has had to address many issues, including a thorough re-appraisal of the teaching/ learning process. Everyone engaged in higher education in the United Kingdom and Ireland are affected to a greater or lesser extent by the abrupt changes taking place. The re-appraisal of the teaching and learning process inevitably raised the question whether ICT could bring about the massive productivity improvements that Governments hoped for to facilitate the shift to higher education for the masses. As ICT was my chosen field of study, my expertise was particularly relevant. My university (DCU) took a leading role in advising the Government in Ireland and in implementing plans for the formation of teachers capable of using ICT throughout the Irish school system. My field of study was itself subject to accelerating change as ICT

offered an increasing range of flexible communication systems. That added a further set of rapidly passing milestones along the eventful path that I was navigating.

ICT in the context of teaching and learning debates

Having undertaken Masters' research in 1990 in the University of Bath where some very radical ideas were being discussed around about the direction that educational research should take and the relationship between research and teaching, I was well equipped to appreciate the debate that began to develop in academia around teaching and learning in higher education. When I graduated the expansion of universities in the United Kingdom was just beginning – in the Republic of Ireland, it still lay in the future. It is difficult to realise it now but that was also a time when the internet scarcely existed as a means of global communication. I have lived through the debates on university pedagogy. I have been endlessly up-dating my knowledge and skills in ICT. As the director of a postgraduate programme in ICT in education and training, I have the advantage of having perspectives upon both these developments. My experience in either direction, informed by the increasing flow of literature about practice-based research, has enabled me to secure a fuller understanding of the continuingly crucial role of the teacher and the importance of teacher/student collaboration in the learning process. It has also enabled me to see that ICT, far from displacing the teacher, opens up new creative possibilities for participants provided that they see learning as a collaborative process not only involving teacher/student dialogue but with a wider dimension of student/student dialogue moving toward a 'web of betweenness' that ICT can facilitate (Appendix D, E, F).

Theory and practice

All this leads to a conviction of the need for more practice-based research. I have been greatly helped by the fact that this is the way that much research in the educational field has been moving. I have been able to cite a series of authors that have made this their chief preoccupation. They offer methodologies, including, among others, action research, that have both helped me in framing my own research study and provided criteria that enable me to work out the form of rigour and validity that would be most relevant to the research studies in which I have been engaged. Above all they have shown me how the development of teaching can yield results that hopefully may help others along similar paths, as I have been assisted in my own journey by what I have learned of the experiences of others.

Practicing values

Chapter Six and Seven explore my work in the context of the M.Sc. in Computer Applications for Education, and how I have endeavoured to improve my practice by recognising myself as a 'living contradiction', in the sense of holding values and negating these values in practice. I endeavour to involve and support participants in creating their knowledge from the ground of their own practice.

Web of betweenness

I show the processes that are involved in my supervision, as my value of 'web of betweenness' emerged and was enacted in practice. I explained how this relationship evolved beginning with a one to one basis as I tried to support a teacher in developing his capacity to accept responsibility for improving his practice. Subsequently I transformed this learning experience into a collaborative process when I involved him

in validation group meetings that were intended to help him to develop his learning in a peer group context. I also engaged him in developing his understandings through dialoguing with other researchers and academics.

Pedagogy of the unique

Chapter Eight shows how I have successfully achieved my goal of developing the capacity of participants to be proactive in developing their knowledge. In the context of my 'pedagogy of the unique' these dialogic processes reflect my growing openness to the notion of learning and relearning with others, and reveal that I believe that education should be a democratic process that gives adequate "space to each participant to contribute to the development of new knowledge, to develop their own voice, to make their own offerings, insights, to engage in their own actions, as well as to create their own products" (Barnett, 2000). I believe that I have directed my teaching towards learning by gradually providing opportunities for participants to take responsibility for their own learning and develop their capacity as learners.

Educational values

As I mentioned above, at a particular stage in my teaching career, I have recognised that in a certain sense I represented myself as a 'living contradiction' i.e. holding educational values and denying them in my practice. Through the action research process of experiencing myself as a 'living contradiction' I have been able to imagine a way forward in order to live my educational values more fully in practice. I hope that I can justifiably claim to have created my 'pedagogy of the unique' through my ontological commitment to a 'web of betweenness'. By this I see learning as relational and ICT as a way of bringing us closer to the meanings of our embodied

knowledge. My values as they have emerged in the course of my practice may be clarified as follows:

1. Learning as relational

I believe that learning is relational i.e. we learn in relation to one other. I try to foster and create a collaborative learning environment. In my experience, learning requires the qualities of openness, sharing and trust. In my work with participants, I have tried to articulate my own educational values. This was not easy to do at the start but I realised that in order to enable teachers to articulate their educational values, I needed to openly share my values with them. Trust is an important quality in creating and sustaining a collaborative learning environment. I have endeavoured to trust my own embodied knowledge by enquiring into my practice in order to bring about improvement. It would have sometimes been easier to fall back upon didactic methods. I have constantly endeavoured to maintain my trust that each participant would learn in turn to trust their own embodied knowledge as they develop their practice.

2. Creating narratives of our own learning

I value each participant's creativity, enquiring mind and critical judgement. I believe that it is vital to listen to the needs of participants and to build a curriculum in collaboration with them. Participants come from various contexts and I try to support each participant from where they are starting from in their learning. It is important to provide space for each of the participants to articulate their concerns and ideas as they develop their practice. I have endeavoured to support practice-based research since the start of my work in higher education. This has involved risk as I was bringing a

new form of scholarship into the academy. I had to justify the methodology and ensure that the research was carried out in a valid and rigorous fashion.

3. Developing a dialogic education

I believe that dialogue is fundamental to the teaching and learning process and that each participant has a unique contribution to make to a knowledge base of practice. I have sought to highlight how participants have been collaborators in this educational journey, not subjects to be studied. I am conscious of the need for participants to have the space to develop their own voice. I try to provide this space, both in the classroom and online, where people can create knowledge in collaboration with one another. I have endeavoured to involve participants in dialogue with myself, one another and others. I have tried to support dialogue through face-to-face class sessions, validation meetings, and through the use of a collaborative online learning environment. Through dialogue and trying to understand other points of view – different criteria - I was able to ensure that the participant narratives were legitimated by the academy for the DCU M.Sc. degree.

4. Communicating teaching as a scholarly activity

I believe that practice-based research is a form of scholarly research. In the course of my doctoral research, I have reviewed a number of national and international reports concerned with teaching and learning in higher education. I have paid close attention in my research to the various forms of pedagogy in higher education in order to secure a better understanding of the relevant literature. This has enabled me to appreciate the strongly innovative thrust of much of the emerging scholarship dealing with teaching and learning in higher education. I have presented my practice-based research at

national and international conferences. I have also made presentations at conferences with participants on the Masters programmes. In each instance, I have benefited from the discussions that my papers have generated [WWW4] [DVD1].

5. Using ICT in a creative way

My teaching practice and my research enquiry have been founded on the belief that ICT can be used in a creative way. Participants on DCU postgraduate programmes come from various contexts and I try to support them towards the development of multimedia and web based artefacts for use in their own practice as a substitute for ready made software. I try to keep up-to-date with new developments in technology. On three occasions I have successfully applied for funding from the DCU Teaching and Learning Awards body. These have enabled me to introduce new and emerging technologies into the M.Sc. programmes thereby providing a broader curriculum for participants. I try to involve representatives from industry, education and research in order to develop the programme and its reputation.

Summary

In creating my 'pedagogy of the unique', I have shown the risks and challenges involved in bringing a new form of research and knowledge into the academy.
My practice-based research enquiry has indeed been a collaborative endeavour that could not have taken place were it not for the participation of students in the creation of knowledge in collaboration with me. I have articulated the educational values that have emerged in my practice and I believe that I have endeavoured faithfully to live these values in my practice. My values can now be seen to be communicable standards of judgement with regard to my doctoral research enquiry. I hope that my

enquiry will contribute to new understandings of the link between teaching and research and how teachers can contribute a knowledge base of practice through use of ICT [WWW9] [DVD1].

To be a 'higher education' in the Barnett sense, I believe that the curriculum can be a co-creation between participants and lecturers as we engage with the wider curriculum. This has involved listening to the points of view of participants, understanding their particular concerns and context. I hope that I can justifiably claim to have created my 'pedagogy of the unique' through my ontological commitment to a 'web of betweenness'. By this I see learning as relational and ICT as a way of bringing us closer to the meanings of our embodied values.

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Appendix A

Action Research Planner for Computer Applications for Education 2001

I experience a concern when some of my educational values are denied in practice.

Reflecting on my learning during the modules, I recognised that I did not openly share my values with participants. I believe that I should involve participants from the start in co-creating the curriculum with me. Participants often leave assignment writing until the end of the module and do not make use of the time to reflect on their learning as they develop multimedia and web based artefacts. Most of the participants are teachers and it is important that they are aware of the new emerging theories of learning. There is a body of work being constructed by from different practice contexts that could be shared through a website.

I imagine a solution

Build a website to host the variety of artefacts being developed by participants on the programme. In this way participants can build on the work developed by previous participants on the programme. The artefacts will be supported by accompanying text describing and explaining participant learning as they work to improve their students learning. I will continue to use online learning technology and to include more opportunity for teacher online collaboration and dialogue. Rowland (2000, p. 100) believes that the very process of writing can provide a way of "exploring and articulating emotions and values with a view to bringing our practice and teaching into closer alignment with our values." I intend to build an action research process

into the module. This would enable participants to carry out research into their own educational practice. In carrying out practice-based research I will encourage them to consider the data they need to collect in order to show how they could use the technology to improve student learning.

I act in the direction of the solution

Invite participants during the first session of *Computer Applications in Education* module (2001) to articulate their goals for the module. I will videotape this session in order to come to a closer understanding of the values that are emerging from my own practice as I work with participants.

I evaluate the outcomes of my actions.

The multimedia and web based curriculum artefacts on the newly designed website provide evidence of the work that is being developed by participants. The supporting text will document their ongoing learning and development

I modify my problems, ideas and actions in the light of my evaluations.

I would like to use online learning technology in a more dialogic rather than content based fashion i.e. delivery mechanism of course notes. I need to provide opportunities for participants to learn and respond to each other through use of online learning technology.

Appendix B

Action Research Planner for Network Information Management 2001

I experience a concern when some of my educational values are denied in practice.

I have been using online learning technology since 1998 as a participant in online professional development programmes. Since 1999 I have been using online learning technology on the Masters programme. So far my use of online learning technology consists of uploading the course material to a bulletin board. In this enquiry, I want to use an online learning environment to promote more dialogic interaction rather than using it as only as a delivery mechanism for programme content.

I imagine a solution

I want to continue to use the online learning environment during the Network Information module (2001) and to encourage participants to document their own learning through use of online journal writing. The journals can be accessed by all participants on the programme. I hope that this will help participants to articulate their own concerns and to reflect on how ICT can help to improve practice. Through the use of shared online journal writing participants will have the opportunity to interact with each another.

I act in the direction of the solution

Participants will document their own learning through use of an online learning environment. Introduce them to 'living educational theory' questions – what is my concern, why am I concerned, what am I going to do about it etc.

I evaluate the outcomes of my actions

The online learning journals provide evidence of participant learning through the module. The online dialogues emerge in the course of practice

I modify my problems, ideas and actions in the light of my evaluations

The purpose of the online learning journals was to provide participants with the opportunity to document their learning as they developed a web based artefact for use in their work context. The goal of the enquiry was to develop participants' capacity to take charge of their learning. To achieve this goal, I engaged participants in a process that involved them in documenting their learning. They were asked to develop a multimedia/web based artefact and to evaluate its use in practice and to share their learning with one another. The enquiry focused on how one participant, Ann Marie engaged in this process. Evidence of how I have engaged her in this process is shown through online learning journals. Each teacher engaged with me rather than with each other. I am beginning to see the potential of the online learning environment to support participants as they articulate their own concerns in practice. I would like to develop my use of online learning environment further by exploring how we could make use of it in a more collaborative way.

Appendix C

Action Research Planner for Collaborative Online Learning Environments 2003

I experience a concern when some of my educational values are denied in practice.

During the Network Information Management module (2001) I provided opportunities, through use of online learning environment, for participants to document their learning. Each participant had engaged in dialogue with me. I would like to develop the use of online learning environment further by exploring how we could make use of it in a more collaborative way.

I imagine a solution

I want to continue to use the online learning environment during the Collaborative Online Learning Environments (2003) module. However, I will encourage participants to document and share their learning in a more collaborative fashion. I will continue to engage participants in their learning through using a 'living educational theory' approach.

I act in the direction of the solution

Participants will document their own learning through use of an online learning environment. Introduce them to 'living educational theory' questions – what is my concern, why am I concerned, what am I going to do about it etc. I encourage participants to share their own experiences and learning with each other and to recognise that we all have experiences and expertise to share with each other.

I evaluate the outcomes of my actions.

The online learning dialogues that took place during the Collaborative Online Learning module is evidence of a more proactive and collaborative approach by participants.

I modify my problems, ideas and actions in the light of my evaluations.

I will continue to engage participants in documenting and sharing their learning through the use of an online learning environment.

Appendix D

Creating a Pedagogy of the Unique through a Web of Betweenness

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Dublin City University.

Seminar Presentation to the British Educational Research Association (BERA)

2005 Annual Conference 15th September, 2005, University of Glamorgan

Introduction

My thesis examines the growth of my educational knowledge and development of my practice, as higher education educator. It sets out to report on this research and to explain the evolution of my educational influence in my own learning, the learning of others and in the education of social formations. The context of my research was the collaborative process that developed between myself and participants on the M.Sc. in Computer Applications for Education and M.Sc. in Education and Training Management (ICT) at Dublin City University (DCU). Within this context, I work with a sense of research-based professionalism, seeking to improve my practice through using a 'living educational theory' approach that has sustained me in asking, researching and answering the question; 'How do I improve my practice?' This has enabled me to critically examine my own assumptions and values.

I clarify the meaning of my embodied values in the course of their emergence in my practice-based research. My values have been transformed into living standards of judgement that include a 'web of betweenness' and a 'pedagogy of the unique'. The

'web of betweenness' refers to how we learn in relation to one another and also how ICT can enable us to get closer to communicating the meanings of our embodied values. I see it as a way of expressing my understanding of education as 'power with', rather than 'power over', others. It is this *'power with'* that I have tried to embrace as I attempt to create a learning environment in which I, and participants (this is how I describe students on the postgraduate programmes), can grow personally and professionally. A 'pedagogy of the unique' respects the unique constellation of values that each practitioner-researcher contributes to a knowledge base of practice.

As a researcher, I have supported practitioners in bringing their embodied knowledge and values into the public domain as they design, develop and evaluate multimedia and web based artefacts for use in their own practice contexts. This has involved the supervision of Master degree 'living educational theory' enquiries. My PhD enquiry has been a professional journey that has involved risks, courage and challenges, but I have learned that in creating my 'pedagogy of the unique', I learn and grow, recognising the contribution I myself make as an individual, and also recognising the contribution dialogue, participation and collaboration with others achieves.

Rationale of my research enquiry

In my practice-based research, I demonstrate how I am contributing to a knowledge base of practice by creating my 'living educational theory'. This involves me in systematically researching my practice in order to bring about improvement (Farren, 2004, 2005; Farren and Whitehead, 2005).

Whitehead (1989, 2003) claims that values are embodied in our educational practice and their meanings can be communicated in the course of their emergence in practice. He encourages us to account for our own educational development through the creation of our 'living educational theory' and using our values as living standards of judgement we can judge the validity of our claims to educational knowledge. I intend to analyse my educational influence in terms of the transformation of my embodied knowledge into public knowledge, by showing my educational influence in my own learning, the learning of others and on the education of social formations.

Framing my research within the context of literature on practice-based research

My research is timely as there is now a growing interest in applied and practice-based research. In a UK discussion document entitled 'Assessing Quality in Applied and Practice-based Educational Research', Furlong and Oancea point to different models of educational research. They claim that action research as a model "challenges any simplistic distinction between 'pure', 'applied' and 'strategic' research" (Furlong and Oancea, 2005, p. 8). They suggest that practice-based research can contribute to theoretical knowledge production as well as bringing about improved practice. The future of educational research in the UK is likely to be guided by the results of the Research Assessment Exercise (RAE) 2008. The UK Governments RAE 2008 states that researchers should be able to submit applied and practice-based research that they consider to have achieved 'due standard of excellence'.

> *Where researchers in higher education have undertaken applied and practice-based research that they consider to have achieved due standards of excellence,*

they should be able to submit it to the RAE in the expectation that it will be assessed fairly, against appropriate criteria.

(RAE 2008, par. 47)

Boyer (1990), the past President of the Carnegie Foundation of Teaching and Learning, based at Stanford University, urged academics to move beyond the teaching versus research debate. He identified forms of scholarship that moved beyond the scholarship of discovery (research). These included the scholarship of integration, scholarship of application and scholarship of teaching. Boyer pointed toward a more rounded view of what it means to be a scholar: "a recognition that knowledge is acquired through research, through synthesis, through practice, and through teaching" (Boyer, 1990, p.24). In 1995, Schön pointed out that if teaching is to be seen as a form of scholarship then the practice of teaching must be seen as giving rise to new forms of knowledge (Schön, 1995, p.31).

Lee Shulman, current President of the Carnegie Foundation of Teaching believes that the key to improvement in teaching lies in a conception of teaching as a scholarly endeavour.

A scholarship of teaching will entail a public account of some or all of the full act of teaching – vision, design, enactment, outcomes, and analysis – in a manner susceptible to critical review by the teacher's professional peers and amenable to productive employment in future work by members of the same community.

(Shulman, 2004, pp. 149-150)

Shulman, has been instrumental in creating an advanced study centre called the Carnegie Academy for teachers who engage in the scholarship of teaching in ways that make their work public and available for critical evaluation, in a form that others can use, build upon, and move beyond. This involves university academics engaging in sustained inquiry into their teaching practice and their students' learning. The Carnegie Foundation has created the Knowledge Media Laboratory (KML), a web based resource of teaching and learning artefacts [WWW1]. Shulman points out that if pedagogy is going to be an important part of scholarship there must be evidence of it, "it must become visible through artefacts that capture its richness and complexity" (Shulman, 2004, p. 142).

Issues around knowledge and how teachers can contribute to a knowledge base of practice are evident in contributions to Educational Researcher. The following articles are relevant to this debate. In 2001, Snow wrote the following in her presidential address, ''Knowing what we know: children, teachers, researchers'

> The Knowledge resources of excellent teachers constitute a rich resource, but one that is largely untapped because we have no procedures for systematizing it. Systematization would require procedures for accumulating such knowledge and making it public, for connecting it to bodies of knowledge established through other methods, and for vetting it for correctness and consistency. If we had agreed-upon procedures for transforming knowledge based on personal experiences of practice into "public knowledge, analogous to the way a researcher's private knowledge is made public through peer-review and publication, the advantages would be great.
>
> (Snow, 2001, p.9).

In June/July (2002) Hiebart et al. wrote in their article, 'A knowledge base for the teaching profession: what would it look like and how can we get one?'

> To improve classroom teaching in a steady, lasting way, the teaching profession needs a knowledge base that grows and improves. In spite of the continuing efforts of researchers, archived research knowledge has had little effect on the improvement of practice in the average classroom. We explore the possibility of building a useful knowledge base for teaching by beginning with practitioners' knowledge. We outline the key features of this knowledge and identify the requirements for this knowledge to be transformed into a professional knowledge base for teaching.
>
> (Hiebart *et al.*, 2002: 3).

Contribution of Information and Communications Technology (ICT)

It is worthwhile, at this stage, outlining the contribution ICT has offered to the development of my educational knowledge, and in particular, to the development of new standards of educational judgement. ICT has been used to complement and support my pedagogy as it unfolds. Some examples in the context of my research include; digital video to record my teaching and Masters supervision, online learning environments that have sustained ongoing dialogue among participants and myself, desktop videoconferencing that has opened up the classroom environment and provided opportunities to share our knowledge with others; email correspondences; multimedia and web based artefacts ICT has enabled us to design, develop and evaluate for use in teaching. This research is publicly available on my website and has been accredited at Masters degree level at Dublin City University [WWW2].

Educational values

I explain how the educational values that emerge in the course of my practice-based research have become living standards of judgement. These standards and values include a 'web of betweenness' and a 'pedagogy of the unique'. 'Pedagogy of the unique' is characterized by the recognition that each individual has a particular and distinctive constellation of values that motivate their enquiry and sets a distinctive context within which enquiry proceeds. The 'Web of Betweenness' refers to my belief that we learn in relation to one another. It refers also to how ICT can bring us closer to the meanings of our embodied values. I have been influenced by the Irish theologian John O'Donohue's (2003, pp. 132-133) use of the term 'web of betweenness'. O' Donohue refers to the Celtic imagination and how a person's nature was revealed in experience. However he sees this idea of experience as comprising more than the action of the individual – it represents the life of the individual woven into the lives of others. "In the intuitive world-view of the Celtic Imagination, the web of belonging still continued to hold a person, especially when times were bleak." (ibid, p. 132).

O' Donohue reminds us that

> *in Catholic theology, there is a teaching which is reminiscent of this. It has to do with the validity and wholesomeness of the sacraments. In a case where the minister of the sacrament is unworthy, the sacrament still continues to be real and effective because the community of believers supplies the deficit. It is called the ex-opere-operoto principle. From the adjacent abundance of grace, the Church fills out what is absent in the unworthiness of the celebrant. Within the embrace of folk culture, the web of belonging supplied similar secret psychic and spiritual shelter to the individual. This is one of the deepest poverties in our times. That whole 'web of betweenness' seems to be unravelling. It is rarely acknowledged anymore, but that does not mean that it has ceased to exist. The 'web of betweenness' is still there but in order to become a presence again, it needs to be invoked. As in the rainforest, a dazzling diversity of life-forms complement and sustain each other. There is secret oxygen with which we unknowingly sustain one another. True community is not produced. It is*

> *invoked and awakened. True community is an ideal where the full identities of awakened and realized individuals challenge and complement each other. In this sense individuality and originality enrich self and others.*
>
> (O' Donohue, 2003, pp. 132-133)

David Smith (2001, p.271) asks "*Why should it be important to consider the question of what sustains us*?" In my opinion, this question is at the very basis of ontology, of one's being in and toward the world. An appreciation of one's ontological position seems a vital step in clarifying the meanings of our values in the course of their emergence in practice.

1. Learning as relational

I believe that learning is relational i.e. we learn in relation to one other. I try to foster and create a collaborative learning environment. I believe that learning requires the qualities of openness, sharing and trust. In my work with participant, I have tried to articulate my own educational values. This was not easy to do at the start but I realised that in order to enable teachers to articulate their educational values, I needed to openly share my values with them. Trust is an important quality in creating and sustaining a collaborative learning environment. I have endeavoured to trust my own embodied knowledge by enquiring into my practice in order to bring about improvement. It would have sometimes been easier to fall back upon didactic methods. I have constantly endeavoured to maintain my trust that each participant would learn in turn to trust their own embodied knowledge as they develop their practice.

2. Creating narratives of our own learning

I value each participant's creativity, enquiring mind and critical judgement. I believe that it is vital to listen to the needs of participants and to build a curriculum in collaboration with them. I believe that it is important to provide space for each of the participants to articulate their concerns and ideas as they develop their practice. I have endeavoured to support practice-based research since the start of my work in higher education. This has involved risk as I was bringing a new form of scholarship into the academy. I had to justify the methodology and ensure that the research was carried out in a valid and rigorous fashion.

3. Developing a dialogic education

I believe that dialogue is fundamental to the teaching and learning process. I believe that each participant has a unique contribution to make to a knowledge base of practice. I am conscious of the need for participants to have the space to develop their own voice. I try to provide this space, both in the classroom and online, where people can create knowledge in collaboration with one another. I have endeavoured to involve participants in dialogue with myself, one another and others.

I have tried to support dialogue through face-to-face class sessions, validation meetings, and through the use of an online learning environment.

4. Communicating teaching as a scholarly activity

I believe that practice-based research is a form of scholarly research. In the course of my doctoral research, I have reviewed a number of national and international reports concerned with teaching and learning in higher education. I have paid close attention in my research to the various forms of pedagogy in higher education in order to secure

a better understanding of the relevant literature. This has enabled me to appreciate the strongly innovative thrust of much of the emerging scholarship dealing with teaching and learning in higher education. I have presented my practice-based research at national and international conferences. I have also made presentions at conferences with participants on the Masters programme. In each instance, I have benefited from the discussions that my papers have generated with them. Participants come from various contexts and I try to support each participant/ teacher from where they are starting from in their learning.

5. Using ICT in a creative way

My teaching practice and my research enquiry have been founded on the belief that ICT can be used in a creative way. Participants on DCU postgraduate programmes come from various contexts and I try to support them towards the development of their own multimedia and web based artefacts for use in their own practice as a substitute for ready-made software. I try to keep up-to-date with new developments in technology. On three occasions I have successfully applied for funding from the DCU Teaching and Learning Awards body. These have enabled me to introduce new and emerging technologies into the programme thereby providing a broader curriculum for teachers. I try to involve representatives from industry, education and research in order to develop the programme and its reputation.

Pedagogies for higher education: a dialogue with the literature on pedagogy in higher education

Although higher education is beginning to include a wider and broader range of students, Zukas and Malcolm assert that adult education is still regarded as belonging to a separate sphere from higher education proper even when adult education is provided through universities (Zukas and Malcolm, 2002, p. 1). They found that the new specialism of teaching and learning in higher education had developed without reference to adult education. Neglecting the strongly self-motivated adult learner has tended to impoverish many current approaches to teaching and learning.

In their review of the literature, Zukas and Malcolm focus on the pedagogic 'identities' or versions of the educator, which represent the range of understandings of pedagogic work in 'mainstream' higher education literature. They focus on pedagogic writings in adult education and other established sectors of education, and the pedagogies emerging in the field of higher education. Their study was mainly UK based but also included sources from throughout the anglophone world, and to a lesser extent from European writings originating in the UK.

They identify five pedagogic identities in the literature surveyed:

1. The educator as critical practitioner.
2. The educator as psycho-diagnostician and facilitator of learning.
3. The educator as reflective practitioner.
4. The educator as situated learner within a community of practice.
5. The educator as assurer of organisational quality and efficiency; deliverer of service to agreed or imposed standards.

Zukas and Malcolm (ibid, p. 9) point out that the current version of pedagogy in higher education has come about due to the split between disciplinary and pedagogic communities in higher education and the split between research-based and pedagogic communities of practice. Thus teaching was seen as a separate activity to research. With the increase in a diverse study body, there is a need for "*differing strategies necessary to enable diverse adults to learn different things in different settings in different ways.*" (Hanson, 1995, p. 105). The idea of one overarching theory for teaching and learning does not seem appropriate to accommodate the diverse student body now in higher education.

Developments in Technology

Myers (1996, p.3) points to the emerging technologies that are a result of research in human-computer interaction. These extend from the mouse pointing device, windows, computer applications such as drawing, text editing and spreadsheets and hypertext, and to the new technologies of the future, such as multimedia and 3D, gesture recognition, natural language and collaborative learning technologies. Myers believes that user interfaces will most likely be one of the main 'value-added competitive advantages' of the future, as both hardware and basic software become commodities. We are still witnessing the pursuit of a developmental paradigm whose eventual outcomes can only be guessed at.

By contrast with the evident potentiality and dynamism of the new technology, studies of its impact upon teaching practices in higher education indicate that, as yet, teachers in general are making use of email and web resources but more advanced

technologies, such as online learning environments and wireless solutions are only being used to a limited extent. Few in higher education are dealing in a practical manner with the new technology's central ideas about the handling of knowledge. An international comparative study on Models of Technology and Change in Higher Education was carried out by the Centre for Higher Education Policy Studies and the Faculty of Educational Science and Technology of the University of Twente in the Netherlands (Collis & van der Wende, 2002). The study found that Institution wide technological structures are now in place. However, rich pedagogical use of the technological infrastructure is still in development. Van Merriënboer *et al.* (2004, p. 13) point out that the central concept in handling of e-learning currently tends to center upon 'content'. They regret that forms of e-learning that emphasise the active engagement of learners in rich learning tasks and the active, social construction of knowledge and acquisition of skills are rare. In other words, the potential of the technology to transform the teaching/learning environment is still far from being realised in the institutions of higher education.

Living Educational Theory approach to research

For the past 30 years, Jack Whitehead has been committed to an action research approach which he calls 'living educational theory'. Whitehead sees education as a value-laden activity and refers to values as those qualities, which give meaning and purpose to our personal and professional lives. He suggests that in asking questions of the kind, 'how do I improve what I am doing?' (Whitehead, 1989, 2005), practitioners can create their own theory by embodying their educational values in their practice. He does not see educational theory as constituted by the disciplines of philosophy, psychology, sociology and history of education. Whitehead sees the

purpose of educational research as essentially concerned with the creation and testing of educational theories: "*Because I see educational theory as an account of the educational influence of individuals and social formations that include learning to live values more fully, I attach great importance to those values that appear to carry hope for the future of humanity*" (Whitehead, 2004, p. 2).

In the development of a living educational theory approach Whitehead offers the following five ideas.

i). That one should include 'I' as a living contradiction in educational enquiries of the kind, 'How do I improve my practice?'

ii). That one should develop systematic forms of action enquiry including 'I' as a living contradiction.

iii). That one should seek to create and test living educational theories as explanations for learning in educational enquiries of the kind, 'How do I improve my practice?'

iv). That one should devise a process for clarifying the meanings of embodied values in the course of their emergence in practice and for transforming embodied values into living and communicable standards of educational judgement.

v). That one should identify ways of influencing the education of social formations through the creation and testing of living educational theories in a range of cultural and social contexts using multi-media representations.

(Whitehead, 2005, p. 2)

Whitehead draws on the idea of social formations as defined by the social theorist, Bourdieu (1990) who analysed the idea of the power of the habitus in analyzing social formations.

> *...social science makes greatest use of the language of rules precisely in the cases where it is most totally inadequate, that is, in analyzing social formations in which, because of the constancy of the objective conditions over time, rules have a particularly small part of play in the determination of practices which is largely entrusted to the automatisms of the habitus.*
>
> (Bourdieu, 1990, p. 145)

The Question of Validity and Rigour

Sparkes is concerned about the excessive claims made by adherents of the traditional view of scientific research with its commitment to rationality, objectivity, and a range of dualisms that include subject/other. He advocates acknowledgement of other forms of research and warns that, "Any kind of research can be dismissed, trashed, and trivialized if inappropriate criteria are imposed on it" (Sparkes, 1997, p. 199). He claims that participatory action research suggests that validity, in the context of this form of inquiry, needs to be re-conceptualised in terms of the efficacy of the research in relation to changing relevant social practices. Sparkes makes reference to the work of Schwandt who proposes that social inquiry be redefined through the application of practical philosophy, which involves challenging the ideology of 'epistemic criteria', that focuses on fixed and predetermined rules. In this way, he envisages a new moral and political framework would be invoked wherein values and concerns could be

addressed through open dialogue, critical reflection, and a willingness to change (Schwandt, 1996, cited in Sparkes, 1997, p. 220). These views can be traced back to Smith (1989, 1993, cited in Sparkes, 1997, p. 221) who believes that judgement in qualitative inquiry takes place through debate, discussion, and the use of exemplars. In the context of changing or improving social practice, in education in particular, it emerges that teachers' values and concerns need to be addressed and that this can be done through involving teachers in critical reflective dialogue and developing a more open attitude.. In 1995, Schön advocated the need for a new epistemology of practice (Schön, 1995) and suggested that this new scholarship would take the form of action research. However, Schön pointed out two impediments to legitimizing the kinds of action research associated with the new scholarship in the Academy. Firstly, the power of disciplinary in-groups that have grown up in the academy around the dominant epistemology. Secondly, the inability of scholars to make their practice into appropriately rigourous research (Schön , 1995, p. 34). In framing my own research design, I have taken these warnings to heart. I took account of Winters' (1989) six criteria of rigour. As for methods establishing social validity, I included the application of Habermas' (1972) four criteria of comprehensibility, truth, rightness and authenticity. I will discuss each of these methods below. Whitehead points to validity as vital in all research, which is concerned with the generation and testing of theory. He points out that researchers need to know what to use as a unit of appraisal and the standards of judgement used in order to test a claim to educational knowledge (Whitehead, 1989). In addition, in submitting accounts of my own educational practice and opening my practice to evaluation by peers, I provide evidence to show how the meanings of my embodied ontological values, can become living standards of judgement in evaluating the validity of my knowledge-claims. These living critical

standards of judgement include a 'pedagogy of the unique', and a 'web of betweeenness.

Feldman defines validity as the "degree to which a study accurately reflects or assesses the specific topic that the research is attempting" (Feldman, 2003, p. 26). In self-study we need to show that our self-study as teacher educators is making a difference and bringing about improvement in practice. This then raises the questions of how we know that we have changed our ways of being and how we convince others not only that the change has occurred but also that it has value (Feldman, 2003, p. 27). Qualitative research has few measurements and researchers have developed other criteria to judge the validity of qualitative research. Feldman (2003) suggests that the following ways to increase the validity of self-studies:

i). Provide a clear and detailed description of how we collect data and make explicit what counts as date in our work i.e. provide the details of the research methods used.

ii). Provide clear and detailed descriptions of how we constructed the representation for our data.

iii). Extend triangulation beyond multiple sources of data to include explorations of multiple ways to represent the same self-study.

iv). Provide evidence of the value of the changes in our ways of being teacher educators.

Methods of Action Research: Living Educational Theory approach

I will use a living educational theory approach to demonstrate how embodied values can be transformed into living standards of judgement. Accounts of learning within a living educational theory methodology involve expressing concerns when educational values are not lived in practice, imagining a way forward, gathering data, evaluating practice on effectiveness of actions, modifying plans in light of the evaluation, and submitting accounts of learning to a validation group in order to strengthen the validity of the account of practitioner learning

Whitehead (1989) has formulated the following action reflections cycle for presenting claims to know one's educational development as one investigates questions of the type; 'How do I improve this process of education here?'

- I experience problems when my educational values are negated in my practice.
- I imagine ways of overcoming my problems.
- I imagine ways of overcoming my problems.
- I act on a chosen solution.
- I evaluate the outcomes of my actions.
- I modify my problems, ideas and actions in the light of my evaluations..(and the cycle continues).

Whitehead has further refined the above planner into the following action plan (McNiff, 2003, p. 72)

- What is my concern?
- Why am I concerned?
- What do I think I can do about it?
- What will I do about it?
- How will I gather evidence to show that I am influencing the situation?
- How will I ensure that any judgements I make are reasonably fair and accurate?
- What will I do then?

Methods of Rigour in Living Educational Theory

I have developed my own educational living standards of judgements that act as criteria of my practice-based research. I also relate to Winter's (1989, pp. 38-66) criteria of rigour. His criteria are specifically related to an action research enquiry. In appraising his criteria, I reflected on the value that they might have for me as I develop my own living educational theory and support practitioner-researchers in developing theory from practice. Winter offers six criteria of rigour in the judgement of an action research enquiry. They include dialectics, reflexivity, collaborative resource, risk, plurality, theory, practice and transformation.

1. Dialectics

Dialectics starts with a notion of contradiction. Through researching into my own practice as higher education educator, I have come to realise that there is a contradiction in terms of my educational values and practice. I came to find a way of accommodating new ideas into my practice that has contributed to my professional

knowledge. In this thesis, I make explicit the contradictions in my own practice and show how I have worked through dialogue with others in order to improve practice.

2. Reflexivity

Reflexivity relates to judgements made from one's own personal experiences. By being reflexive and recognising that I am part of the research data and through exploring my own practice with the intention of improving, I show how I am part of the research.

3. Collaborative Resource

The participants in an action research project are seen as co-researchers. In my thesis, different voices emerge: my own voice, the voice of teachers on professional development programmes, the voice of my supervisor, and the various voices that emerge from the literature.

4. Risk

Risk is an essential element of any change process. Through my research, I bring a new form of knowledge into the academy through my supervision of living educational theory Master's degree dissertations. In doing this, I have had to engage with other points of view with respect to what constitutes valid research. In attempting to contribute to the legitimisation of 'living educational theory' research within the academy, there have been risks and challenges to established cultures. By communicating my work, I have attempted to overcome these risks and challenges.

5. Plurality

A plural form of research requires a plural form for reporting. The thesis will include a multiplicity of viewpoints which will be represented using different forms of multimedia representation; email correspondences, online learning dialogues, video clips, audio clips, and electronic portfolio work in the form of a website.

6. Theory, Practice and Transformation

This means that theory and practice are not seen as two separate entities but are intertwined. Theory informs practice and practice, in turn, informs theory. In undertaking to carry out research into my own educational practice, I show how I am contributing to a knowledge base of practice, which, in turn, can inform theory. I have attempted to overcome the usual division between theory and practice by being involved in the research process and by making my practice explicit so as to make original and unique contribution to knowledge.

Methods of Validity: Habermas Social Validation

Mc Niff describes validation as "*a system that should be part of the ongoing, formative processes of action research. This is part of critical, self-reflective process. It operates when action researchers discuss their work informally with colleagues, critical friends and tutors*" (McNiff et al., 2003, p. 29). The methods I use to enhance validity of my research include Habermas idea of social validity. Habermas (1972) states that when language is used for reaching an understanding with another the following 'musts' constitute the validity basis of such communicating action:

1. The speaker must choose a comprehensible expression

2. The speaker must have the intention of communicating a true proposition
3. The speaker must want to express his/her intentions truthfully so that they hearer can believe the utterance of the speaker
4. The speaker must choose an utterance that is right (appropriate, legitimate, justifiable)

In addition, in the context of my supervision of Masters degree researchers, I have organised validation group meetings in order to provide the opportunity for each practitioner-researcher to present their work to others in the group with the purpose of developing the capacity of each individual to produce an account of his/her learning and submit it to a validation group in order to strengthen the validity of the accounts and to benefit from the ideas of others on ways to move learning forward.

I have adopted Habermas' four criteria in the form of questions: criterion 4 has been adapted to include a question on evidence of the teacher's influence on the learning of others.

1. Is the descriptions and explanations of the practitioner-researchers' learning comprehensible?
2. Is there sufficient evidence to justify the claims being made?
3. Are the values that constitute the enquiry as 'educational' clearly revealed and justified?
4. Is there evidence of the practitioner-researchers' educational influence on the learning of others?

By relating to Winter's criteria of rigour and Habermas' criteria of validity in the context of validation group meetings, I will endeavour to ensure that my practice-based research is both rigourous and valid. In addition, in the course of my practice-based research, I develop my own living standards of judgement. I also support teachers to develop their own living educational theory by asking, researching and answering the question, 'how can I improve my practice?'

Conclusion

Recently, higher education has had to address many issues, including a thorough re-appraisal of the teaching/ learning process. The re-appraisal of the teaching and learning process inevitably raised the question whether ICT could bring about the massive productivity improvements that Governments hoped for to facilitate the shift to higher education for the masses. Having undertaken Masters' research in 1990 in the University of Bath where some very radical ideas were being discussed around about the direction that educational research should take and the relationship between research and teaching, I was well equipped to appreciate the debate that began to develop in academia around teaching and learning in higher education. When I graduated the expansion of universities in the United Kingdom was just beginning – in the Republic of Ireland, it still lay in the future. It is difficult to realise it now but that was also a time when the internet scarcely existed as a means of global communication. I have lived through the debates on university pedagogy. I have been endlessly up-dating my knowledge and skills in ICT. As the director of a postgraduate programme in ICT in education and training, I have the advantage of having perspectives upon both these developments. My experience in either direction, informed by the increasing flow of literature about practice-based research, has

enabled me to secure a fuller understanding of the continuingly crucial role of the teacher and the importance of teacher/student collaboration in the learning process. It has also enabled me to see that ICT, far from displacing the teacher, opens up new creative possibilities for participants provided that they see learning as a collaborative process not only involving teacher/student dialogue but with a wider dimension of student/student dialogue moving toward a 'web of betweenness' that ICT can facilitate.

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[WWW1] http://kml.carnegiefoundation.org/gallery

[WWW2] http://webpages.dcu.ie/~farrenm

Appendix E

How can I create a web of betweenness through information and communications technology (ICT)

A paper to be presented at the European Association for Research on Learning and Instruction (EARLI) Conference

SIG Invited symposium: Teaching and Teacher Education:

'Demonstrating accountability through our self-study practices as teacher educators'

Nicosia, Cyrpus 2005

Available on http://www.elearningeuropa.info

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Abstract

In 1990, Boyer, the past President of the Carnegie Foundation of Teaching and Learning, based at Stanford University, urged academics to move beyond the teaching versus research debate. He identified forms of scholarship that moved beyond the scholarship of discovery (research). These included the scholarship of integration, scholarship of application and scholarship of teaching. Boyer pointed to a more inclusive view of what it means to be a scholar: "a recognition that knowledge is acquired through research, through synthesis, through practice, and through teaching" (Boyer, 1990, p.24). The recognition of practice-based research as a valid form of research in higher education is evident in the UK Government's Research Assessment

Award (RAE 2008) which states that researchers should be able to submit applied and practice-based research that they consider to have achieved 'due standard of excellence' ((RAE 2008, par. 47). Furlong & Oancea suggest action research can contribute to more theoretical knowledge production while at the same time achieving changed practice. They believe that it "challenges any simplistic distinction between 'pure', applied' and 'strategic' research" (Furlong & Oancea, 2005, p.8).

In my practice-based research, I demonstrate how I am contributing to a knowledge base of practice by creating my 'living educational theory' (Whitehead, 1989, 2004). This involves me in systematically researching my practice in order to bring about improvement. The context of my research is in collaboration with participants on the MSc in Computer Applications for Education and MSc in ICT in Education and Training Management at Dublin City University. Coulter and Wiens (2002, p.23) point out that it is crucial that teachers and researchers become better educational judges of practice. I explain how the educational values that emerge in the course of my practice-based research become living standards of judgement. These standards and values include a 'web of betweenness' (O'Donohue 2003) and a 'pedagogy of the unique'. 'Pedagogy of the unique' is characterized in the recognition that each individual has a particular and different constellation of values that motivate the enquiry and a different context from within which the enquiry is developing. The 'web of betweenness' refers to my belief that we learn in relation to each other and how ICT can bring us closer to the meanings of our embodied values.

Objectives of the session

The objectives or my presentation are as follows:

i). To communicate the meanings of my embodied values of a web of betweenness and pedagogy of the unique.

ii). To demonstrate how Information and Communications Technology (ICT) can make our teaching public through "*artefacts that capture its richness and complexity*" (Shulman, 2004, p.142).

iii). To provide evidence of how I am supporting practitioner-researchers to develop their own living standards of judgement from their practice-based research.

Educational and scientific importance

In their review of the literature on pedagogies in higher education, Zukas and Malcolm (2002, p.1) suggest that the new specialism of teaching and learning in higher education has developed without reference to adult education. Neglecting the strongly self-motivated learner has tended to impoverish many current approaches to teaching and learning in higher education. They found little evidence of critical practice in writings on higher education pedagogy. As diverse and more mature types of students enter higher education, it is vital that the traditional role of the educator as one who offers content knowledge is broadened so that teaching is aimed at developing students' capacity to create their own understandings and insights through participation, negotiation and dialogue. Barnett's understanding of a 'higher

education' is one where students are provided with the space to develop their own voice (Barnett, 2000, p.160).

As the full potentiality of human computer interaction is developed there is likely to be a further explosion of the use of multimedia and the ability for people to communicate in more dynamic ways through use of technology. Myers (1996, p.3) points to the emerging technologies that are a result of research in human-computer interaction. These extend from the mouse pointing device, windows, computer applications such as drawing, text editing and spreadsheets and hypertext, and to the new technologies of the future, such as multimedia and 3D, gesture recognition, natural language and collaborative learning technologies. Myers believes that user interfaces will most likely be one of the main 'value-added competitive advantages' of the future, as both hardware and basic software become commodities. We are still witnessing the pursuit of a developmental paradigm whose eventual outcomes can only be guessed at.

By contrast with the evident potentiality and dynamism of the new technology, studies of its impact upon teaching practices in higher education indicate that, as yet, teachers in general are making use of email and web resources but more advanced technologies, such as online learning environments and wireless solutions are only being used to a limited extent. Few in higher education are dealing in a practical manner with the new technology's central ideas about the handling of knowledge.

An international comparative study on Models of Technology and Change in Higher Education was carried out by the Centre for Higher Education Policy Studies and the

Faculty of Educational Science and Technology of the University of Twente in the Netherlands (Collis & van der Wende, 2002). The study found that Institution wide technological structures are now in place. However, rich pedagogical use of the technological infrastructure is still in development. Van Merriënboer *et al.* (2004, p. 13) point out that the central concept in handling of e-learning currently tends to center upon 'content'. They regret that forms of e-learning that emphasise the active engagement of learners in rich learning tasks and the active, social construction of knowledge and acquisition of skills are rare. In other words, the potential of the technology to transform the teaching/learning environment is still far from being realised in the institutions of higher education.

It is worthwhile, at this stage, outlining the contribution ICT has offered to the development of my educational knowledge, and in particular, to the development of new standards of educational judgement in educational practice. ICT has been used to complement and support my pedagogy as it unfolds. Some examples in the context of this presentation include: digital video to record my teaching and supervision, online learning environments that have sustained ongoing dialogue among practitioners and myself, desktop videoconferencing that has opened up the classroom environment and provided opportunities to share our knowledge with others. Multimedia and web based artefacts with supporting text provide evidence of how practitioners are developing living standards of judgement through asking, researching and answering the question, 'How do I improve my practice?'

Methods

In creating my 'pedagogy of the unique' through a living educational theory approach to research, I provide evidence to show my educational influence in my learning, in the learning of others, and in the education of social formations. The methods I use to validate my claims include:

- Living educational theory action research cycles;
- Winter's (1989) six criteria of rigour;
- Social validation meetings.

Living Educational theory accounts of learning methodology involve expressing concerns when educational values are not lived in practice, imagining a way forward, gathering data, evaluating practice on effectiveness of actions, modifying plans in light of the evaluation.

Winter's (1989) Six Criteria of Rigour include dialectics, reflexivity, collaborative resource, risk, plurality, theory, practice and transformation.

Habermas's (1987) Criteria of Validity include four criteria of social validity, i.e. comprehensibility, truth, rightness and authenticity.

In assessing the quality of my practice-based research I focus on my embodied values and living standards of judgement.

Data Sources

The following data sources will be used to provide evidence of the standards of judgements used to show learning in the public interest.

i). Accounts of my learning as a higher education educator.

ii). Accounts of the learning of Practitioner-Researcher accounts on the MSc in Computer Applications for Education and MSc in Education and Training Management (ICT) at Dublin City University.

Conclusion

In the context of my 'pedagogy of the unique' the dialogic processes reflect my growing openness to learning and relearning with others, and reveal that I believe that education should be a democratic process that gives adequate "space to each participant to contribute to the development of new knowledge, to develop their own voice, to make their own offerings, insights, to engage in their own actions, as well as to create their own products" (Barnett, 2000, p. 161). I believe that I have directed my teaching towards learning by gradually providing opportunities for participants to take responsibility for their own learning and develop their capacity as learners.

My practice-based research enquiry has indeed been a collaborative endeavour that could not have taken place were it not for the participation of students in the creation of knowledge in collaboration with me. I have articulated the educational values that have emerged in my practice and I believe that I have endeavoured faithfully to live these values in my practice. My values can now be seen to be communicable

standards of judgement. I hope that my enquiry will contribute to new understandings of the link between teaching and research and how teachers can contribute to a knowledge base of practice through use of ICT.

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Appendix F

Ontological commitments in Self-study

The Transformative Potential of Individuals' Collaborative Self-Studies for Sustainable Global Networks of Communications

This presentation is part of a Symposium accepted for the programme of the American Educational Research Association Annual Conference 12-16 April 2004, in San Diego

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There is a vitality, a life force, an energy, a quickening that is translated through you into action, and because there is only one of you in all of time, this expression is unique. And if you block it, it will never exist through any other medium and it will be lost. The world will not have it. It is not your business to determine how good nor how valuable nor how it compares with other expressions. It is your business to keep it yours clearly and directly, to keep the channel open.

Martha Graham, quoted by Agnes DeMille, Martha:

The Life and Work of Martha Graham

The Art of Possibility. (Zander, R.S. & Zander, B. 2000)

Introduction

This paper explores the contribution ICT can offer to the development of educational knowledge, and in particular, to the development of new standards of educational judgement. The paper examines how the growth of one's own educational knowledge

occurs in relationship to the development of the knowledge base of other people, and how this process can be shared through use of ICT. In this stepping forward new living standards of judgement emerge for a particular group of practitioner-researchers, who have undertaken to research collaboratively into their individual enquiries.

While each individual researcher brings his/ her unique constellation of embodied values into the academy as a set of living standards of judgement, each practitioner-researcher also acknowledges the collaborative nature of their enquiries, through the 'web of betweenness.' This web is intended to be creatively and critically responsive to each enquirer and his/her own creation of knowledge. The value of co-operation, dialogue and participation is present within the 'web of betweenness', a mutually supportive and participative environment. It constitutes a holistic process, involving an intellectual, emotional, spiritual, aesthetic, social interactive process.

I will be showing how each self-study is unique and each is contributing to a 'web of betweenness,' http://webpages.dcu.ie/~farrenm/educators.html. "True community is an ideal where the full identities of awakened and realised individuals challenge and complement each other. In this sense both individuality and originality enrich self and others" (O'Donohue, 2003).

Context

The context of this study lies in the professional development of teachers working in the fields of education and training. The enquiry takes place in the M.Sc. in Computer Applications for Education based at Dublin City University.

I hope to show how I have influenced the social formation of the programmes, through the design and pedagogy of a curriculum for teachers, engaged in professional development in ICT. My research is based on the creation of a new epistemology of educational enquiry in which I bring the embodied knowledge of practitioner-educators into the academy. Firstly, I intend to demonstrate the growth of my own educational knowledge over the five years of my teaching as higher education educator (1999-2004). The principles I communicate are both the practical principles, understood as embodied values, that I use to explain my learning/practice, and the epistemological values understood as living standards of judgement, that I use as the epistemology for a new scholarship of educational enquiry. The enquiry involves me in clarifying my own educational values and knowledge as teacher-educator, as I attempt to demonstrate the growth of my own educational knowledge. I make reference to 'pedagogy of the unique,' that is understood as a pedagogy that develops out of living and sharing my educational values and understandings in a community of practice, while, at the same time, respecting, learning from, and encouraging the ongoing development of knowledge creation by others. The process recognizes teaching and learning as a creative and reflective process and, therefore, that each of us has a unique contribution to make to the creation of knowledge,

through shared understandings. Therefore, it would seem that each member of the community of practice could sustain one another through a 'web of betweenness' – a dialogic form of human communication, leading to learning.

Shulman, the President of Carnegie Foundation of Teaching makes the point that a scholarship is only a scholarship when we make our knowledge public to a community and share with others in the community. He outlines the characteristics and criteria of scholarly work:

> *For an activity to be designated as scholarship, it should manifest at least three key characteristics: It should be public, susceptible to critical review and evaluation, and accessible for exchange and use by other members of one's scholarly community. We thus observe, with respect to all forms of scholarship, that they are acts of mind or spirit that have been made public in some manner, have been subjected to peer review by members of one's intellectual or professional community, and can be cited, refuted, built upon, and shared among members of that community. Scholarship properly communicated and critiqued serves as the building block for knowledge growth in a field.*

I hope to show how I am contributing to a knowledge base of teaching using ICT, and how I communicate this to others with standards for judging the validity of our claims to know our educational influence on others. This practitioner- based knowledge can, I believe, add to the knowledge base of teaching that I and researchers such as Snow (2001), Hiebert, Gallimore and Stigler (2002) seek.

It is worthwhile, at this stage, to outline the role ICT has played in the context of my work in general. ICT has been used to complement and support my pedagogy as it has unfolded. Some examples in the context of my work are listed here: digital video has been used to record classroom practice; online learning technology has mediated the

teaching and learning process and helped shape my research enquiry and teaching practice through use of synchronous and asynchronous modes of communication; videoconferencing has allowed the possibility of including experts into the classroom; ICT tools have enabled teacher-participants to design and develop multimedia and web based artifacts that reflect one's own educational values; ICT has been used as a means of disseminating teacher-participant project work; in addition, video clips, photographs and examples of synchronous and asynchronous communications are currently available on: http://webpages.dcu.ie/~farrenm/educators.html

Growth of my educational knowledge

I intend to show how my educational knowledge has developed through my practice, as I have engaged teacher-participants in enquiries into their own learning as they ask and research and answer the question: how can I improve my practice? I am referring to educational knowledge as professional knowledge i.e. knowledge that is intrinsically linked to practice. The growth of my educational knowledge involves a dual role: myself as a learner, as I enquire into my own learning, and myself in relation to others, as I endeavour to engage learners in a process of reflection and enquiry into their own educational practice using ICT. I believe that in order to support teacher-researchers to reflect on their own practice, it is necessary for the teacher-educator himself/herself to reflect on their own practice. The process is not a constructivist process, in which the teacher-participants might simply construct their own understandings of their practice as they communicate and interact with their learners. It is important that the teacher-educator be open to becoming influenced by this process, while influencing the process as well. In short, the process is an individual, collaborative and interactive process. With regard to the production of

knowledge, Shor (1987) points out that "Knowledge is produced in a place far from the students, who are asked only to memorize what the teacher says. Consequently, we reduce the act of *knowing* into a mere *transference* of the existing knowledge. And the teacher becomes the specialist in transferring of knowledge..... Thus the qualities required e.g. action, critical reflection, curiosity, demanding inquiry, uneasiness, uncertainty – all necessary to the cognitive subject, to the person who learns! Knowledge is thus seen as something created away from the teacher as opposed to co-created by students and teachers in their classrooms". More recently, Barnett points to the importance of the qualities outlined by Shor in relation to higher education. He states, 'The main pedagogical task in a university setting is not that of the transmission of knowledge but of promoting forms of human understanding appropriate to conditions of supercomplexity (the state of affairs where one is faced with alternative frameworks through which one make sense of one's world, and acts purposively in it)' (Barnett, 2002).

Living Educational Theory

The concept of teaching, based on a 'living educational theory' approach (Whitehead, 1989, 2003), suggests a theory that is in being, yet not static, but becoming. We may be said to be beings in becoming. This signifies a dynamic process, yet one that is grounded on the values of one's person, or being. Living theory is grounded in the descriptions and explanations that practitioners give for their own learning as they ask, research and answer the question: "how can I improve my practice?" Generating theory from practice is integral to the living educational theory approach.

I hope to show from the grounds of my own educational practice how I have created knowledge in collaboration with teachers. I am now aware of these qualities and values that constitute who I am and what I am doing. I offer descriptions and explanations for my own educational development and the educational development of teacher-participants. The challenge for me in my research is to generate new knowledge and to develop standards of judgement that can be used to validate any claims that I make. In this way ontological values become epistemological standards. The process of systematizing my knowledge focuses on the transformation of embodied values into educational standards of judgement that can be used to test the validity of my knowledge claims.

I wish to show my development and responsiveness to individuals and groups of learners over time. As I tell the story of my learning, I am clarifying the fundamental values that underlie my practice. Thus, I am highlighting the importance of the reflective capacity to clarify my own learning and particularly the knowledge that I am in the process of creating.

The educational values of independent reflection, dialogic-collaboration, empathetic connectivity and responsive presence, as represented by the 'web of betweenness', can be communicated as my living standards of judgement to test the validity of my claim to educational knowledge. A quality that I believe underpins all others is that of empathy. Koestler (1978) point out that empathy 'is the source of our intuitive understanding – more direct than language – of how the other thinks and feels....' I believe that the value of empathetic connectivity has engaged the creative responses of teacher-participants and enabled them to embark on the narratives of their learning.

O'Donohue (2003) points out that creativity endeavours to bring some of our hidden life to expression in order that we might come to see who we are:

> *When we are creative, we help the unknown to become known, the visible to be seen and the rich darkness within us to become Illuminated. No human being is ever actually there. Each of us is emerging in every moment. When we discover our creativity, we begin to attend to this constant emergence of who we are.*
>
> (O' Donohue, 2003)

I am learning with my learners, as I encourage them to bring their learning into the public domain and gain academic accreditation for the narratives of their educational development as they work to improve student learning. Bernstein (1996) refers to the recontextualisation of knowledge and the pedagogisation of knowledge. In my research this involves one's own embodied knowledge and making it public with communicable standards of judgement in its legitimation within the Academy.

Influences

In developing my understanding of the meaning and significance of the concept of pedagogy of the unique, I have been influenced by Van Manen's (1991) concept of 'theory of the unique.' This is "a theory that knows how to address the particular case, the practical moments of teaching in which emotion, morality, and reason cannot be disentangled" (Van Manen, 1991). He believes that researchers and theorists tend to

forget that pedagogy is an embodied practice and that pedagogical research and theorizing too, are pedagogical forms of life.

Krishnamurti (1969) emphasizes the importance of observing ourselves in relation, and points out that all life is relationship. He emphasizes the value of self-reflection as fundamental to his philosophy and without it, he believes that our actions become repetitive and habitual. He claims that our whole mental, psychological make up is based on authority, and in order to create and in order to be creative, there must be freedom from authority. I believe that critical reflection is a creative process. I understand this as a systematic process of evaluating what one is doing in planning, monitoring and setting new targets, in the teaching and learning process. I have also been influenced by Carl Roger's theory of learning that is not solely based on mental models. According to Rogers, learning is facilitated in the following way:

1. The student participates completely in the learning process and has control over its nature and direction
2. It is primarily based upon direct confrontation with practical, social, personal or research problems
3. Self-evaluation is the principle method of assessing progress or success.

He also stresses the importance of learning to learn and openness to change. On reading 'On Becoming a Person,' I was impressed by his focus on his own learning. What emerged for him was his understanding of the need for each of us to understand our own values in any human relationship.

How have I supported dialogue through a 'web of betweenness'?

From 1999-2002, I taught teachers on a Masters degree programme in Computer Applications for Education, in the School of Computer Applications. I taught the following modules: Interactive Multimedia and Design (semester 1, year 1) Computer Applications for Education (semester 2, year 1) and Network Information Management (semester 1, year 2).

During the previous term, I had already taught on the Interactive Multimedia and Design module. During this time, I had recognized some contradictions in my own practice, in that I emphasized the importance of teachers being knowledge creators and designers of multimedia and web based artefacts. However, the assignments that I had set did not provide the opportunity for teachers to research their own practice in the context of their use of ICT. I believe that it is important for teachers to show how they are improving teaching and learning through use ICT. At the start of the Computer Applications in Education module (2001), I discussed my own educational values with the group and talked about how I wanted to develop the modules in collaboration with them. In adopting this approach, I was inviting their contributions and judgements in developing the course. In other words, learning was being developed as learner-centered. They were being asked to participate in a reflective process through setting goals, monitoring their own progress, assessing their progress, making changes, where necessary, and setting new learning goals, developing curriculum artefacts that reflected their educational values in their teaching approach in their own classroom.

Boud et al (1985) reminds us that knowing our practice is central if we are to learn to reflect upon it. The reflective process involves looking back and looking forward. Thus, it is pointed towards future action as well as our past action. There are three elements of reflection, as put forward by Boud et al. I used these in my teaching. At the start of the the Computer Applications in Education (2001) session, I asked each person to reflect on their experience of the previous module, Interactive Multimedia and Design (2000) module and relate to the following three points.

- *returning to experience*
- *attending to feelings*
- *re-evaluating the experience*

I invited each teacher to explore the direction they wished to take according to their own concerns. I invited them to engage in reflecting on what they have learned from the previous module and how they wish to develop learning further. What Barnett calls for in higher education is a way of enabling students to handle their own disturbances and this calls for a pedagogical transaction in which the student has the pedagogical space to develop their own voice. Barnett attempts to reconceptualise the discourse in university with the view to helping students to live and work in a supercomplex world in which there are no ready made solutions. As a higher education educator, I believe that I am developing a new type of discourse in the teaching and learning context. I am encouraging teacher-participants to live and work in the classroom context and deal with uncertainty, and to try to resolve this through enquiring into their own educational practice. I am providing them with the opportunity to explore their own practice and I am linking teaching and research in

this way to show how teacher-researchers can contribut to the knowledge base of teaching. They show their understanding of learning theories and instructional design theories in their work. However, it must be said that they are not fitting their practice into a particular theory, but bringing their own unique values and contributions into the academy.

Although some of the teachers had been hesitant at the start of the Computer Applications in Education (12-week module), I will show video of presentations that demonstrate each of their capacities to reflect on the way ICT could be integrated into her work context. Thus, my focus on embedding the pedagogy and technology within the module's structure provided the opportunity for each participant to explore the way they could design, develop and integrate ICT into their context.

During the follow-on module, Network Information Management, (2001), I integrated the use of online technology into the module. I invited each participant to document their own learning online through the creation and use of their own online learning journal. Participants on the programme had access to the discussion forum so the learning journals could be shared with other participants on the programme. In the presentation of assignment, I suggested that they use the following questions outlined by Whitehead (2003):

- What am I concerned about/what do I want to improve?
- What am I going to do about it?
- What data will I need to collect to enable me to make a? judgement on my effectiveness?

- Act and gather data
- Evaluation of effectiveness
- Modification of concerns, ideas and actions in the light of evaluations
- Submission of description and explanation of my learning in the educational enquiry, ' How do I improve my practice?' to a validation group.

As I had introduced teachers to an action research approach during the Network Information Management module (2001), I wanted to continue to support teachers if they wished to use an action research approach within a Masters dissertation. However, this was a new approach to the one used within the School of Computer Applications at D.C.U. A positivist approach to research had been taken during the MSc in Computer Applications for Education programme. In 2002, I supervised four teacher-researchers who wished to carry out research into their own educational practice (two from the School of Education Studies and two from the School of Computer Applications). Elliott's (2004) recent paper "The Struggle to Redefine the Relationship between 'Knowledge' and 'Action' in the Academy: Some Reflections on Action Research" confirms my belief of the importance of each individual contributing their theory to the knowledge base of teaching. He points out that "one can provide a meaningful account of action research as a process of theorizing about a practical situation. This will involve challenging the assumptions that the term 'theory' exclusively refers to generalisable representations of events, which can only be produced under conditions that are dissociated from the intentions of agents to effect change in practical situations."

I agree wholeheartedly with this point. In supervising action research enquiries, I value the contribution that each teacher-researcher contributes to the knowledge base of educational practice. I would like to mention here that each of the teacher-participants in the photograph that includes Chris Garvey, Bernie Tobin, Mairéad Ryan and Fionnuala Flanagan, (image 1) were carrying out action research studies, and each of them was presenting their work to the academy for the award of M. Sc. degree.

Bernstein's idea of pedagogisation of knowledge in the creation of a higher education curriculum has been referred to earlier. During the supervision period, I organized group validation meetings to encourage each teacher-researcher to discuss their research and to provide evidence of how they were attempting to improve their own practice. In supporting teachers to bring their own living educational theory into the academy, I engaged with Bernstein's idea of the pedagogisation of knowledge and the process of pedagogisation of the embodied knowledge, through recontextualising the knowledge into libraries, conference presentations, and on the world wide web where it can be communicated to others.

The validation group meetings were carried out in a shared forum where each individual could make their contribution. The meetings were carried out in such a way that teachers were able to incorporate feedback from their peers and include these in their final dissertation write up. In this way, I believe that I show in part how I have influenced the education of a social formation. I can show how I have been successful in enabling teacher-researchers to gain accreditation in the academy for

carrying out research into their own educational practice and creating their own living educational theory.

In one of our Validation sessions, we used videoconferencing technology to link up with Dr. Jack Whitehead, School of Education at the University of Bath, U.K. Since I first started teaching on the M.Sc. programme in 1999, I have integrated a range of new technologies into the programme. I have invited experts working in education and industry to contribute to this programme. Teachers who have completed the M.Sc. programme have been able to share their knowledge and expertise with current participants on the M.Sc. in Education and Training Management. This has contributed to the collaborative nature of the programme structure and teaching and learning approach.

Conclusion

In my work as higher education educator in the context of professional development of teachers on Masters in ICT in Education, I strive to value and foster each participant's creativity. In the work assignments, I have encouraged teachers to create their own multimedia and web based curriculum artefacts that reflect their own educational values and beliefs. They have attempted to take cognizance of, and incorporate relevant learning theories and instructional design, contained in the theoretical literature, into the planning and development of their curriculum artefact. While I believe that it is important that we learn from and value what relevant literature has to say, I also believe that it is important that teachers are provided with the space to be creative and are enabled to take ownership of the teaching and

learning processes by developing and articulating their own educational values, as these emerge in classroom practice, "educational theory offers models for teaching, approaches to disciplines, techniques for teacher effectiveness, and yet we suspect that this is not enough that it is not enough to apply some technique, follow a program, or trust social policy" (Van Manen, 1991).

This developmental process involves various strands: in relation to their thinking; in relation to the literature; in relation to other teacher-participants, and the teacher educator, who values their unique and essential role in knowledge creation. Teacher-participants deserve our commitment to helping them develop the capacity to be creators of education knowledge, by learning to take an increasing level of responsibility, that involves, among other things, learning to make their own educational judgements, based on sound educational values and criteria.

During the programme, teachers have creatively engaged in developing a range of multimedia and web based curriculum artefacts. The World Wide Web can connect and disseminate the embodied values of educators and allow for a sharing of these values. Each teacher can share and show how they are developing their own living educational theory, from their use of ICT in the context of improving student learning. Thus individuals' collaborative self-studies are contributing to the development of sustainable global educational networks of communications.

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